

To: Parks and Recreation Commission

From: Megha Bansal **Department:** Public Works

Date: September 26, 2017

Subject: Park Improvement Ordinance for design of the Highway 101 Pedestrian/Bicycle Overpass Project

RECOMMENDATION

Staff recommends that the Parks and Recreation Commission (PRC) recommend that the City Council approve a Park Improvement Ordinance (PIO) (Attachment A) for the design of the Highway 101 Pedestrian/Bicycle Overpass Capital Improvement Project (CIP; PE-11011).

BACKGROUND

The project includes construction of a new, year-round, grade-separated, shared bicycle and pedestrian crossing over Highway 101 and Adobe Creek that will replace the existing seasonal Benjamin Lefkowitz Underpass. Adobe Creek Reach Trail is also included in the project that will connect two trailheads on the west side of Highway 101 and provide safer access to the bridge. The project will improve connectivity between the residential and commercial areas on the west of Highway 101 and the Palo Alto Baylands Nature Preserve, the regional San Francisco Bay Trail (Baytrail) network, and businesses on the east of Highway 101. This facility may be used for both commuting and recreational purposes.

In November 2016, staff presented the 15% (conceptual) design of the baseline bridge with optional enhancements for Council consideration and input. Council directed staff to proceed with the 12-foot wide Baseline Bowstring steel truss design and alignment to meet the total project budget of \$14 million (Staff Report ID# 7209). Staff presented the design concepts to the Pedestrian and Bicycle Advisory Committee in January 2017 and the PRC in March 2017 (<http://www.cityofpaloalto.org/civicax/filebank/documents/57160>), followed by preliminary reviews by the Architectural Review Board and the Planning and Transportation Commission in May 2017.

On July 25, 2017, staff presented the preliminary design components and a draft scope of work for the project to the PRC

(<http://www.cityofpaloalto.org/civicax/filebank/documents/58775>). Meeting minutes can be accessed from this link:

<http://www.cityofpaloalto.org/civicax/filebank/documents/59200>

While the project team responded to most questions from the PRC during the meeting, some comments were further reviewed and are addressed as follows:

Commissioner Comments	Staff Response
The bike racks shown on drawings were aesthetically pleasing but did not appear functional.	The bike racks model and type has been revised to match the bike racks used on other City projects.
It would be helpful to have a table to indicate various ingress/egress points to the western approach.	A Circulation Plan is included in the drawing set indicating sidewalks, bike lanes, and shared use paths. Project Plans also include a signage plan showing different types of signage and their locations, including informational, educational, and wayfinding signs.
It would be good to define a use case (commute and recreation) for the facility.	Based on our discussion with various user groups, we think that the structure would be used primarily for commuting purposes during peak commute hours and weekdays, and recreational purposes during the weekends and non-peak commute hours.

For more information, please refer to the project website: cityofpaloalto.org/101

DISCUSSION

The Project consists of a principal span steel truss bridge over Highway 101 and East and West Bayshore Roads, concrete approach structures, various access points including three trailheads and a pedestrian access pathway/ramp, Adobe Creek Reach Trail, an overlook on the east approach structure, landscaping and habitat restoration, lighting, amenities, and signage. The pathway width will be 12-foot clear along the entire length of the structure. The structure will meet the

Americans with Disabilities Act (ADA) standards. Attachment A includes a Park Improvement Ordinance. Attachment B includes graphics and preliminary design drawings.

The design consultant incorporated the PRC, public, and staff's recommendations and developed the design including the following scope of work (Attachment A):

1. Construction of three new self-weathering steel trusses spanning Highway 101, and East and West Bayshore Roads, with safety railing.
2. Construction of cast-in-place concrete approach structures on east and west sides, with safety railing.
3. Construction of a new 140-foot long, self-weathering prefabricated steel truss over the Adobe and Barron Creeks confluence along West Bayshore Road.
4. Incorporation of a new pedestrian access ramp into the Western Approach Structure.
5. Construction of an overlook on the East Approach Structure.
6. Construction of three new trailheads/trail connections at West Bayshore Road, East Meadow Drive and East Bayshore Road.
7. Installation of pole, rail and handrail light-emitting diode (LED) lighting along the structure:
 - a) 15 Pole mounted lights containing 12-foot tall pole with field adjustable modules on the western approach structure.
 - b) Integrated rail lights throughout the pathway including 74 higher mounting height fixtures at the principal span and 141 lower mounting height fixtures at other locations.
 - c) 15 rail mounted step lights, ten in-ground step lights at the curb, and a linear LED light under the bench.
8. Removal and replacement of 28 trees with native trees in accordance with the City's Tree Technical Manual. Installation of vegetated swales.
9. Installation of enhanced amenities including bike racks and bike repair station, benches, trash receptacle, and drinking water fountains.
10. Incorporation of signage including wayfinding, informational and educational signs.
11. Asphalt concrete, compacted gravel, and fencing on Adobe Creek Reach Trail.

12. Street lights replacement, widened sidewalk and mid-block access to trailheads.
13. No lighting on the Adobe Creek Reach and Bay Trails.

RESOURCE IMPACT

Funding for this project is included in Capital Improvement Program (CIP) project (PE-11011) - Highway 101 Pedestrian/Bicycle Overpass Project.

The current project funding is as follows:

Funding Source	Funding Amount
Santa Clara County Recreation Fund	\$4.0 million
One Bay Area Grant (OBAG) Cycle 2*	\$4.35 million
General Fund	\$4.65 million
Google Contribution**	\$1.0 million
Total:	\$14.0 million

*Approval of the OBAG Cycle 2 funds is anticipated in 2017.

**A contribution of \$1 million from Google is planned to fund additional project contingency to offset any increases in project costs.

POLICY IMPLICATIONS

The project is consistent with the Comprehensive Plan goals, policies and programs.

- Goal T-3: Facilities, services and programs that encourage and promote walking and bicycling.
- Goal T-14: Improve pedestrian and bicycle access to and between local destinations, including public facilities, schools, parks, open space, employment districts, shopping centers, and multi-model transit stations.
- Policy T-25: When constructing or modifying roadways, plan for usage of the roadway space by all users, including motor vehicles, transit vehicles, bicyclists, and pedestrians.

TIMELINE AND NEXT STEPS

This project requires an environmental assessment and the Commission to recommend a Park Improvement Ordinance (PIO) for Council approval. Project schedule is as follows:

Phase 1: Preliminary Design

- 15% and 35% design – Complete
- Commission PIO review and recommendation to Council – September 2017
- Public review meetings – Fall 2017
- Complete environmental assessment – Winter 2017
- Complete 65% design – Winter 2017

Phase 2: Final Design and Construction Documents

- Council to authorize Phase 2 and Phase 3 services – Fall 2017
- OBAG Cycle 2 access to construction funding – October 2018
- Complete 100% design and bid documents – Fall 2018

Phase 3: Construction Phase

- Begin construction – early 2019
- Complete construction – early Spring 2020

ENVIRONMENTAL REVIEW

Pursuant to the California Environmental Quality Act (CEQA), an Initial Study and Mitigated Negative Declaration (IS/MND) has been prepared and is in public circulation from September 1, 2017 to October 2, 2017. The IS/MND may be viewed at

<http://www.cityofpaloalto.org/news/displaynews.asp?NewsID=3935&TargetID=319> . The MND concludes that, with mitigation incorporated, the project will have no significant environmental impacts.

Because the project may involve federal funding, the project has also been evaluated under the National Environmental Policy Act (NEPA). The City anticipates that a Categorical Exclusion under NEPA will apply to the project.

ATTACHMENTS

Attachment A: Ordinance Approving and Adopting the Park Improvement Ordinance (PIO) for the Highway 101 Pedestrian/Bicycle Overpass

Attachment B: Graphics and Preliminary Design Drawings

ORDINANCE NO. _____

Ordinance of the Council of the City Of Palo Alto Approving and
Adopting Plans For the Highway 101 Bicycle and Pedestrian Bridge

The Council of the City of Palo Alto does ORDAIN as follows:

SECTION 1. Findings. The City Council finds and declares that:

(a) Article VIII of the Charter of the City of Palo Alto and Section 22.08.005 of the Palo Alto Municipal Code require that, before any substantial building, construction, reconstruction or development is commenced or approved, upon or with respect to any land held by the City for park purposes, the Council shall first cause to be prepared and by ordinance approve and adopt a plan therefor.

(b) The Highway 101 Bicycle and Pedestrian Bridge Project (explained below) is partially within the Baylands, which is dedicated parkland. See Municipal Code section 22.08.020.

(c) The City intends to approve and adopt the plan to construct the Highway 101 Bicycle and Pedestrian Bridge, as detailed in Exhibit "A" and as generally listed below:

1. Construction of three new self-weathering steel trusses spanning Highway 101, and East and West Bayshore Roads, with safety railing.
2. Construction of cast-in-place concrete approach structures on east and west sides, with safety railing.
3. Construction of a new 140-foot long, self-weathering prefabricated steel truss over the Adobe and Barron Creeks confluence along West Bayshore Road.
4. Incorporation of a new pedestrian access ramp into the Western Approach Structure.
5. Construction of an overlook on the East Approach Structure.
6. Construction of three new trailheads/trail connections at West Bayshore Road, East Meadow Drive and East Bayshore Road.
7. Installation of pole, rail and handrail light-emitting diode (LED) lighting along the structure:
 - a) 15 Pole mounted lights containing 12-foot tall pole with field adjustable modules on the western approach structure.
 - b) Integrated rail lights throughout the pathway including 74 higher mounting height fixtures at the principal span and 141 lower mounting height fixtures at other locations.
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8. Removal and replacement of 28 trees with native trees in accordance with the City's Tree Technical Manual. Installation of vegetated swales.
9. Installation of enhanced amenities including bike racks and bike repair station, benches, trash receptacle, and drinking water fountains.
10. Incorporation of signage including wayfinding, informational and educational signs.
11. Asphalt concrete, compacted gravel, and fencing on Adobe Creek Reach Trail.

12. Street lights replacement, widened sidewalk and mid-block access to trailheads.
13. No lighting on the Adobe Creek Reach and Bay Trails.

SECTION 2. The Council hereby approves the Plan for construction of a new year-round, grade-separated, shared bicycle and pedestrian crossing over Highway 101 and Adobe Creek and hereby adopts the Plan attached hereto as Exhibit "A" as part of the official plan for the construction of Highway 101 Bicycle and Pedestrian Bridge.

SECTION 3. The City Council has reviewed and adopted a Mitigated Negative Declaration and a related Mitigation Monitoring and Reporting Program for this project prior to adoption of this ordinance. The Mitigated Negative Declaration concluded that the project would not have a significant effect on the environment with mitigation as proposed.

SECTION 4. This ordinance shall be effective on the thirty-first day after the date of its adoption.

INTRODUCED:

PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

City Clerk

Mayor

APPROVED AS TO FORM:

APPROVED:

Senior Deputy City Attorney

City Manager

Director of Community Services

Director of Administrative Services

Exhibit A - Site Plan

SITE PLAN – ABOVE-GRADE FACILITIES

NOTES:

- 1. FOR GRADING DETAILS, SEE CONSTRUCTION DETAIL SHEETS.
- 2. FOR DRAINAGE IMPROVEMENTS, SEE CONSTRUCTION DETAIL SHEETS.
- 3. FOR BRIDGE DETAILS, SEE STRUCTURAL PLANS.
- 4. EXISTING EASEMENT RIGHTS ARE NOT ILLUSTRATED AS THESE RIGHTS AND BOUNDARIES ARE STILL BEING INVESTIGATED.

LEGEND:

- PCC SIDEWALK, PCC CR, AND PCC DRIVEWAY
- HMA OVERLAY (TYPE A)
- 1' HMA DEEP LIFT
- LANDSCAPE AREA
- DIRECTION OF FLOW

- CITY R/W
- CALTRANS R/W
- SCVWD R/W
- SAWCUT
- RETAINING WALL
- CUT AND FILL LINE

- EXISTING ROADSIDE SIGN
- PROPOSED ROADSIDE SIGN
- REMOVE EXISTING ROADSIDE SIGN
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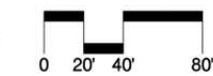
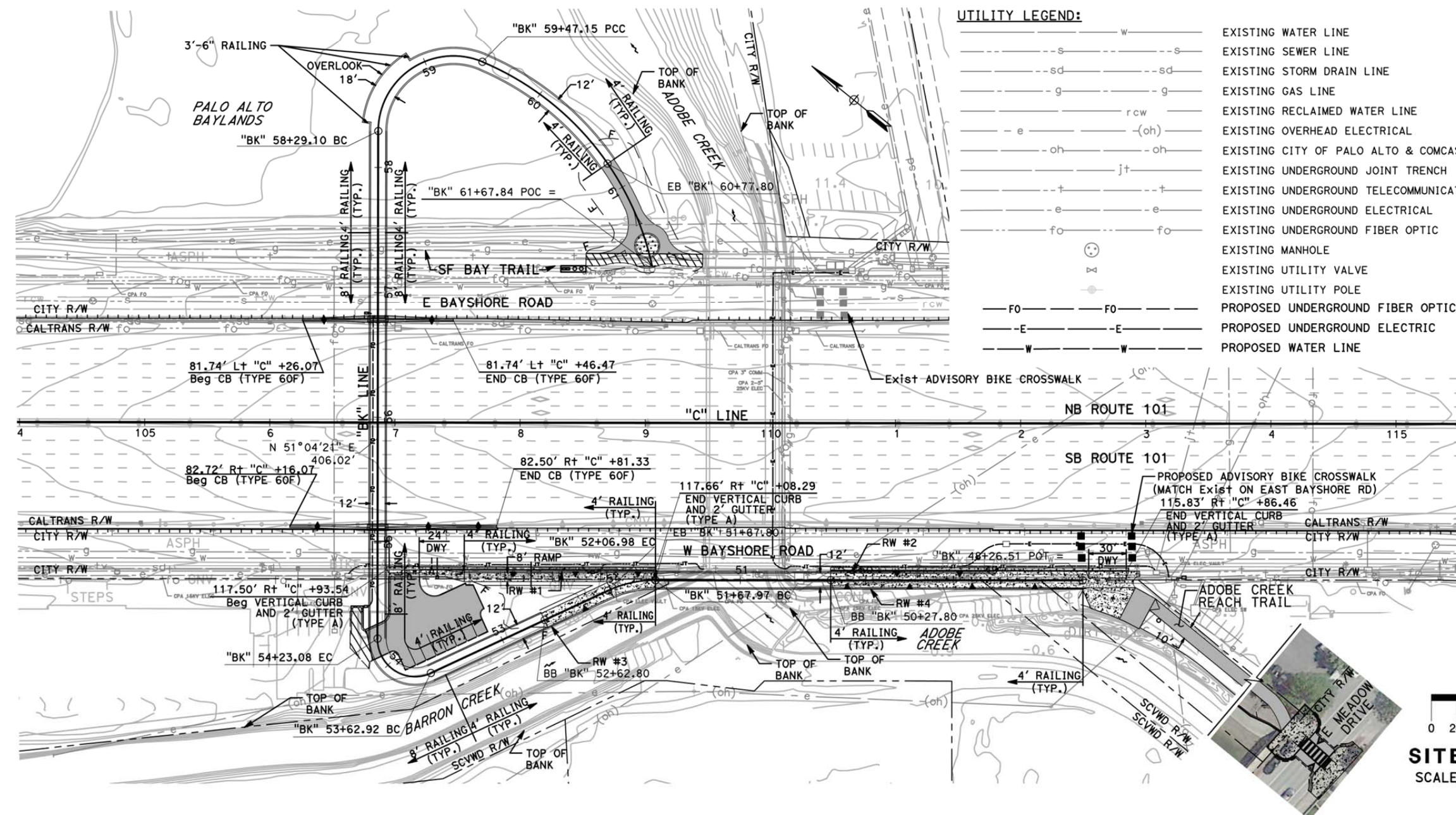
ABBREVIATIONS:

- C&G CURB & GUTTER
- CR CURB RAMP
- Rem REMOVE

DETAIL NUMBER DESIGNATION
DETAIL 1 ON SHEET C-1

UTILITY LEGEND:

- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING STORM DRAIN LINE
- EXISTING GAS LINE
- EXISTING RECLAIMED WATER LINE
- EXISTING OVERHEAD ELECTRICAL
- EXISTING CITY OF PALO ALTO & COMCAST JOINT OVERHEAD
- EXISTING UNDERGROUND JOINT TRENCH
- EXISTING UNDERGROUND TELECOMMUNICATIONS
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND FIBER OPTIC
- EXISTING MANHOLE
- EXISTING UTILITY VALVE
- EXISTING UTILITY POLE
- PROPOSED UNDERGROUND FIBER OPTIC
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED WATER LINE



SITE PLAN
SCALE AS SHOWN

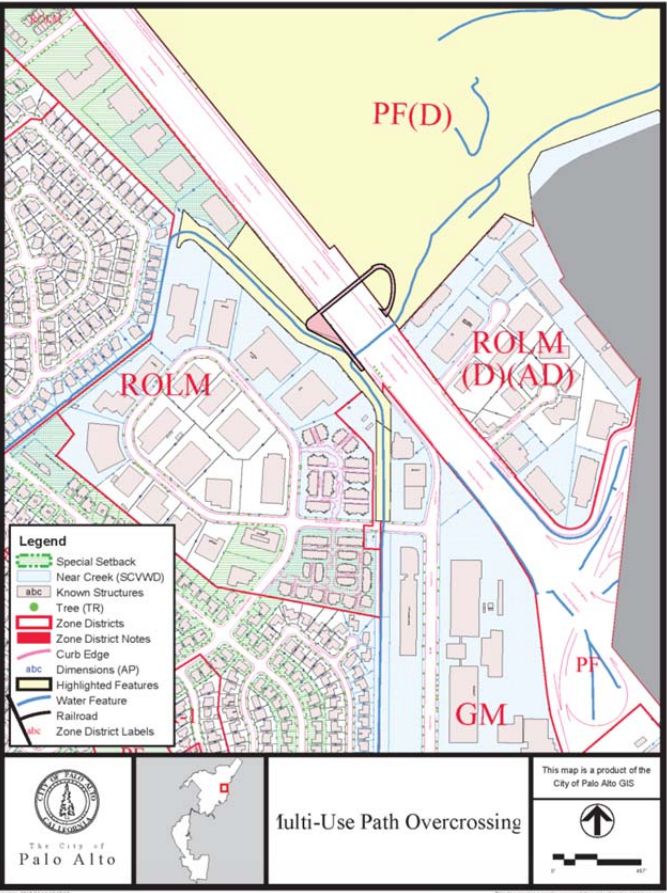
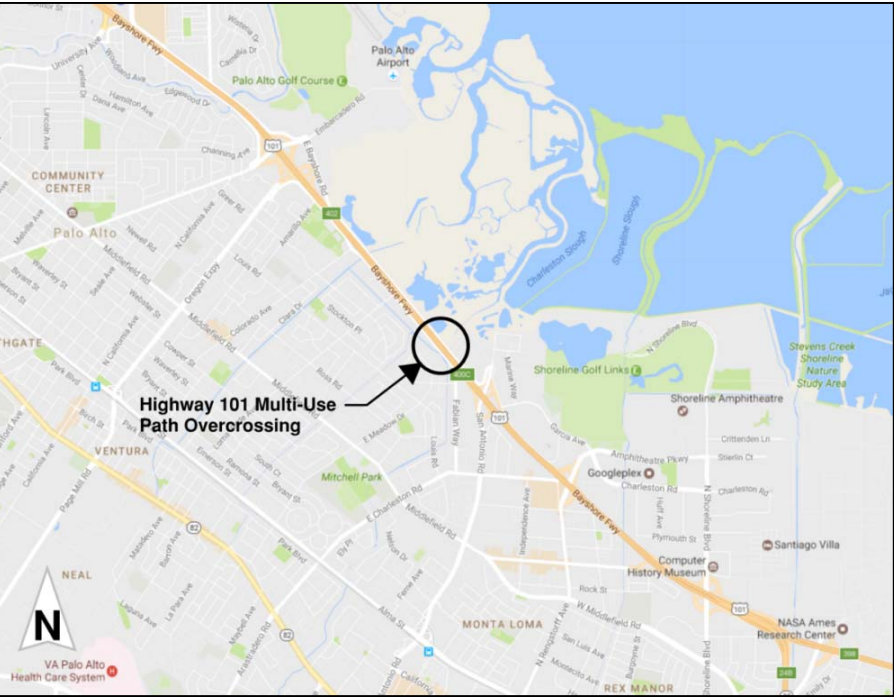
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HIGHWAY 101 MULTI-USE OVERCROSSING AND ADOBE CREEK REACH TRAIL
SITE AND DESIGN REVIEW PACKAGE



1 PROJECT DATA	6 LANDSCAPE PLANS
2 NEIGHBORHOOD CONTEXT	7 PARKING LAYOUT AND CIRCULATION
3 SITE PLAN	8 LIGHTING
4 STRUCTURE ELEVATIONS	9 STRUCTURE SCHEMATICS
5 STRUCTURE SECTIONS	10 TREE PROTECTION PLAN

LOCATION MAP



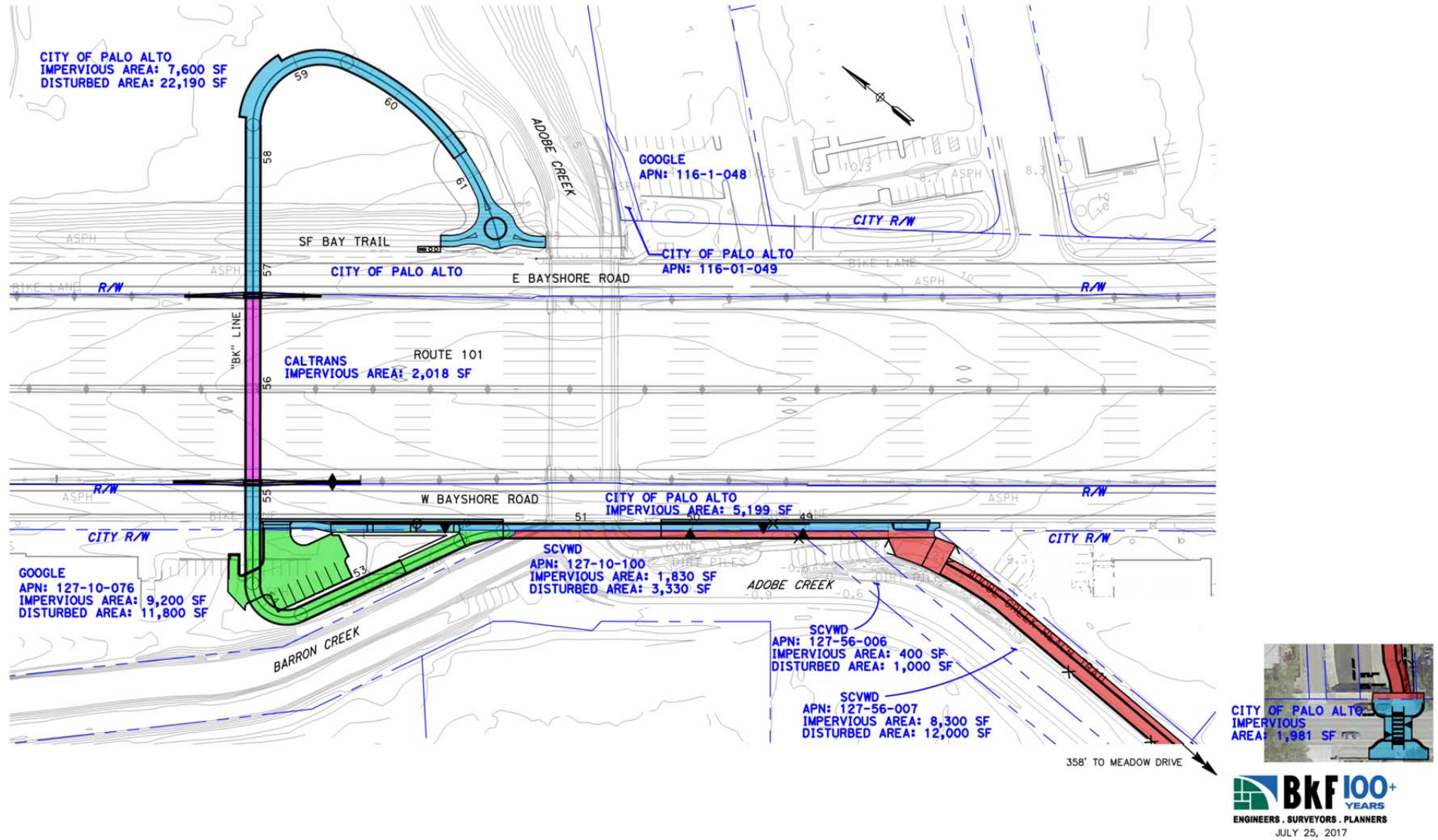
PROJECT DATA

Location:
Approximately 0.3 miles north of San Antonio Road

- Lot Dimensions & Area:**
- #008-05-005 (44,645,693 sf)
 - #127-10-076 (89,941 sf)
 - #127-10-100 (130,572 sf)
 - #127-56-006 (36,258 sf)
 - #127-56-007 (122,639 sf)

Adjacent Land Uses & Zoning:
North: Research Office, Caltrans right-of-way, and Publicly Owned Conservation land uses (ROLM and PF[D] Zone Districts)
West: Research Office land use and some multi-family residential land uses (ROLM Zone District)
East: Publicly Owned Conservation Land (Palo Alto Baylands) (PF[D] Zone District)
South: Office/manufacturing Uses (GM Zone) on the east side of Highway 101, Caltrans and City street right-of-way and Research office and Research office/City of Palo Alto Utilities Engineering offices on the west side of 101 (ROLM (D)(AD) Zone District)

Special Setback
There is a special setback requirement of 24 feet along West Bayshore Road.



PHOTOGRAPHIC DISPLAY / NEIGHBORHOOD CONTEXT



West Bayshore Road at Adobe Creek (Looking South)



Southbound Highway 101 (Looking South)



West Bayshore Road (Looking South)



Northbound Highway 101 at Proposed Overcrossing (Looking East)



Southbound Highway 101 at Proposed Overcrossing (Looking West)



East Meadow Drive at Adobe Creek (Looking North)

SITE PLAN – ABOVE-GRADE FACILITIES

NOTES:

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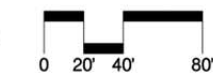
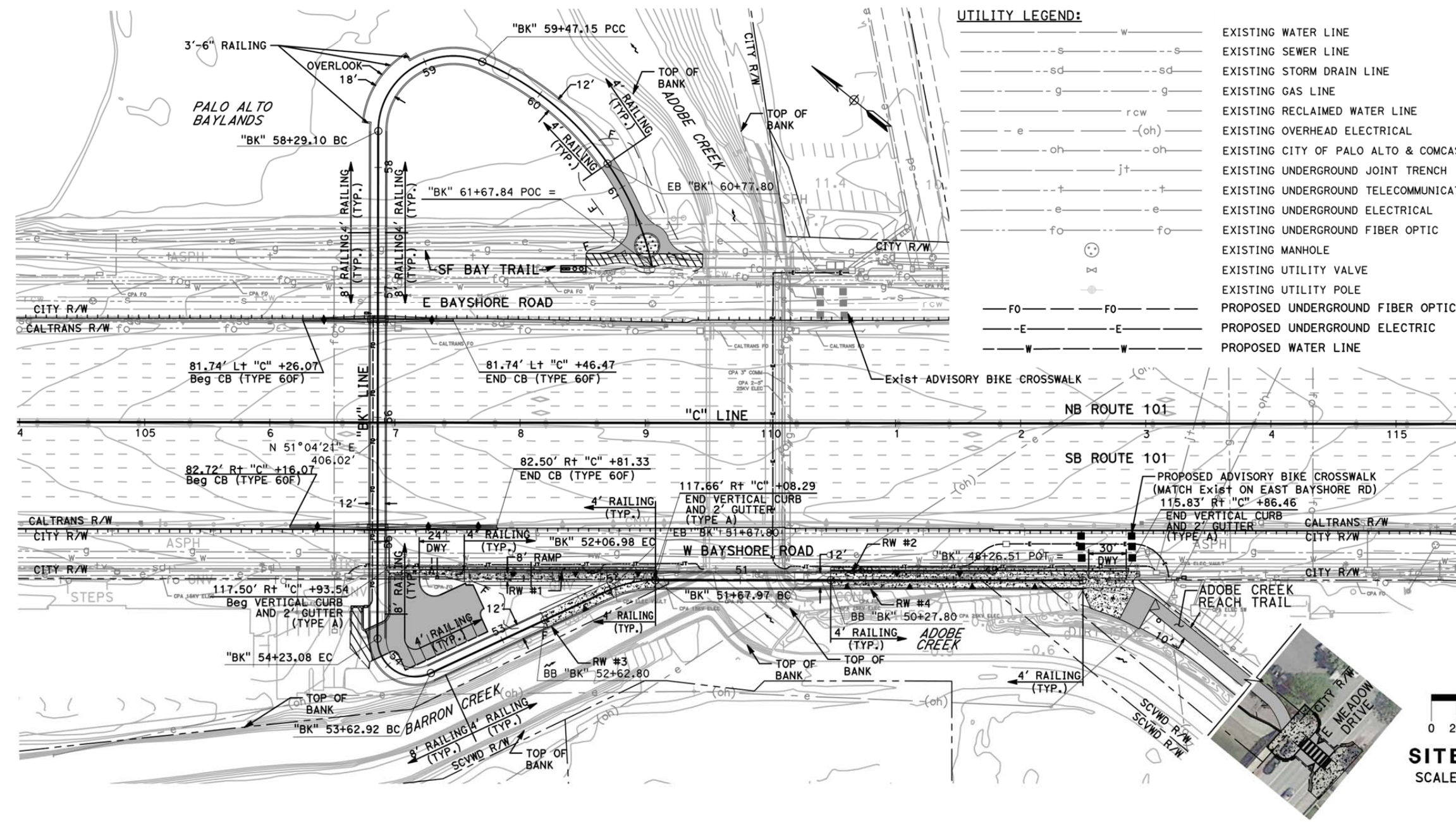
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SITE PLAN
SCALE AS SHOWN

S-1

SITE PLAN – SIGNAGE AND AMENITIES

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C-1

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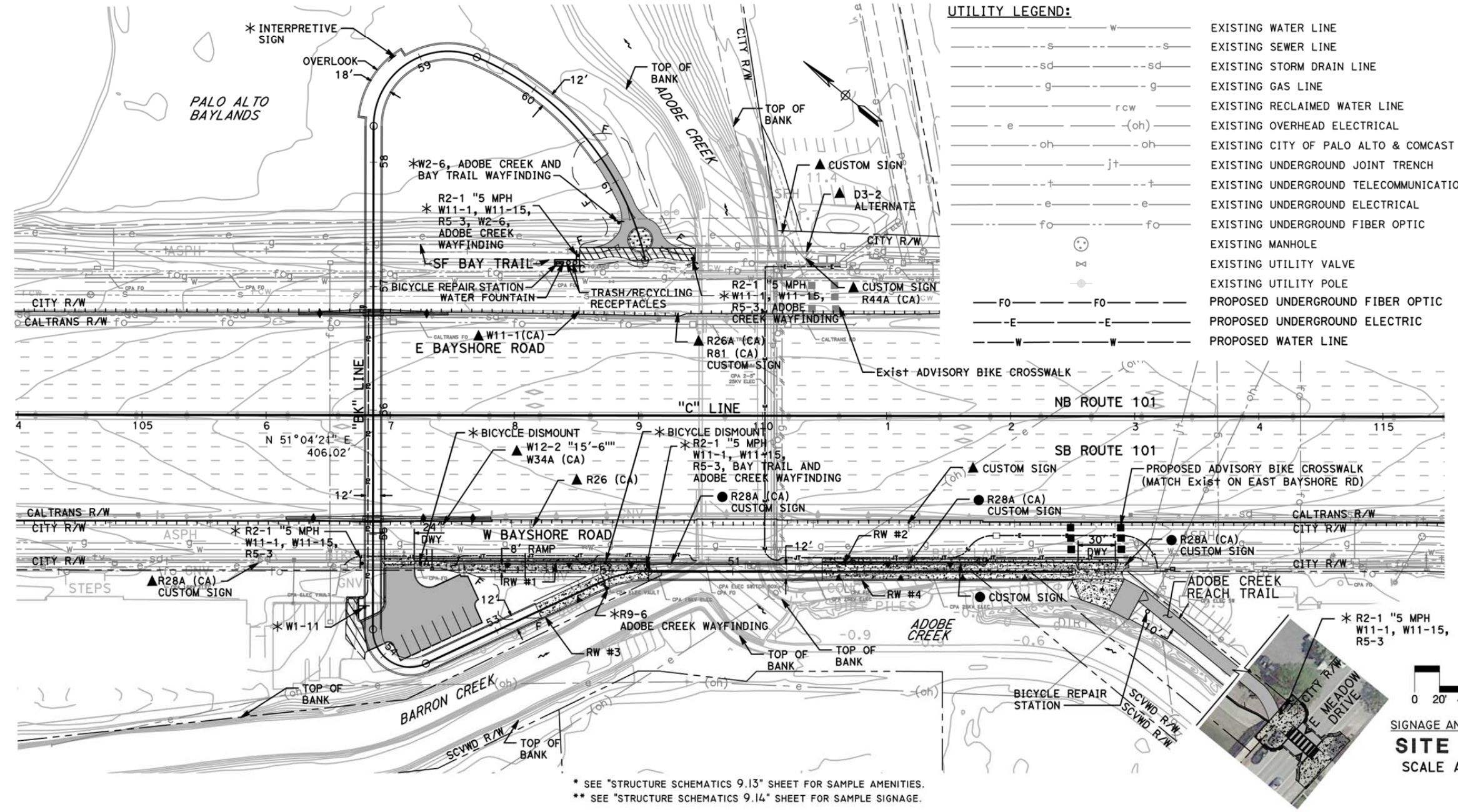
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SIGNAGE AND AMENITIES
SITE PLAN
SCALE AS SHOWN

S - 2

SITE PLAN – UTILITY PLAN (1 OF 2)

NOTES:

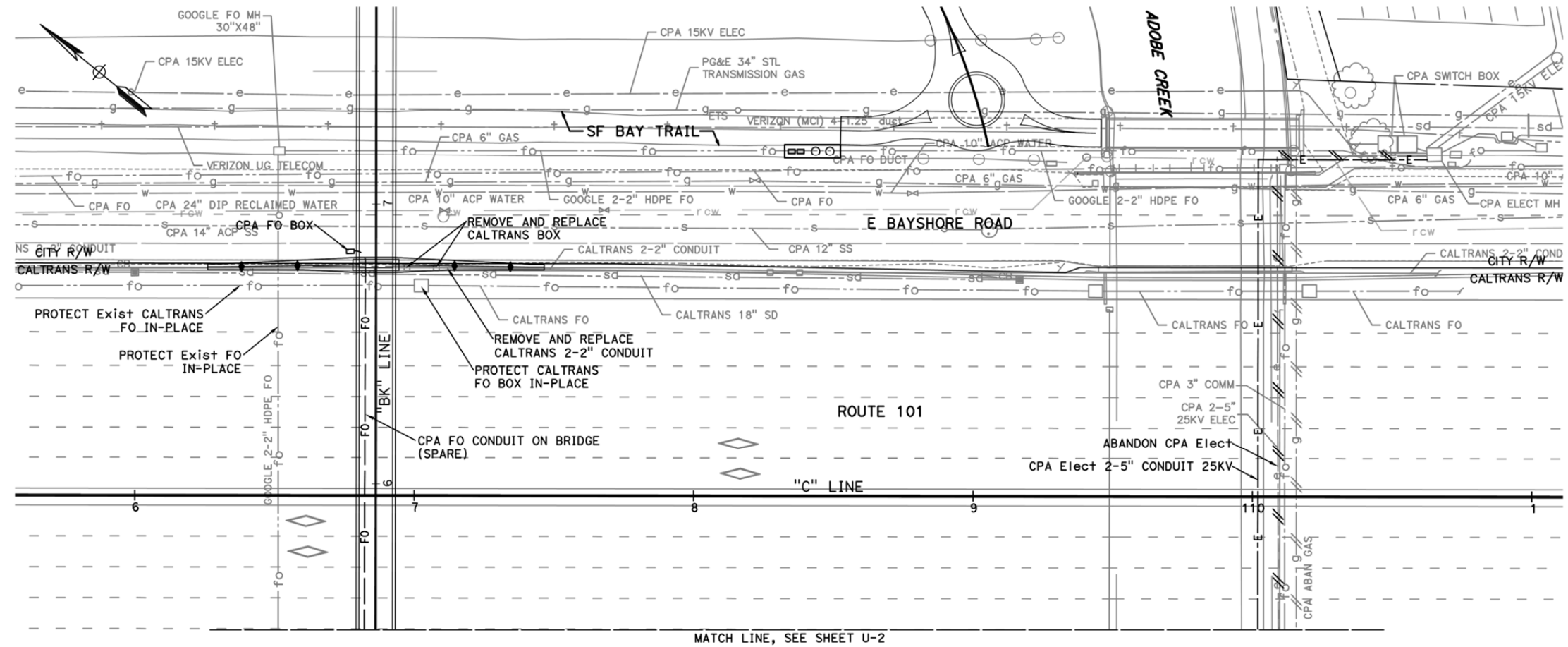
- 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- 2. ALL UTILITIES SHOWN ON THESE PLANS ARE BASED UPON RECORD INFORMATION OBTAINED FROM UTILITY OWNERS, AND/OR FIELD SURVEYS OF THE EXISTING UTILITY SURFACE FEATURES.
- 3. LOCATION OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL SCHEDULE CONSTRUCTION OPERATIONS SO THAT UTILITIES ARE KEPT IN SERVICE AT ALL TIMES.
- 4. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO WORK AND SHALL BE HELD LIABLE FOR ALL DAMAGES INCURRED. CALL SERVICE ALERT (U.S.A) AT (800) 227-2600 48 HOURS PRIOR TO EXCAVATION.
- 5. FOR STREET LIGHT RELOCATION, SEE ELECTRICAL PLANS.
- 6. FOR STORM DRAIN IMPROVEMENTS, SEE CONSTRUCTION DETAILS.
- 7. CPA FO BOX SIZE SHALL BE 30" x 48".
- 8. ALL EXISTING WATER VALVES AND FIRE HYDRANTS REMOVED SHALL BE SALVAGED AND DELIVERED BY THE CONTRACTOR TO THE CITY CORPORATION YARD, WATER-GAS-WASTEWATER REPAIR SHOP LOCATED AT 3201 E. BAYSHORE ROAD.

LEGEND:

---JT---	PROPOSED UG JT
---E---	PROPOSED UG ELECT
---W---	PROPOSED UG WATER
---T---	PROPOSED UG Tel
---FO---	PROPOSED FO
---FO---E---W---	ABANDON Exist UTILITY

ABBREVIATIONS:

BWP	BAR WRAPPED PIPE
CIP	CAST IRON PIPE
Comm	COMMUNICATIONS
CPA	CITY OF PALO ALTO
Elec+	ELECTRICAL
FO	FIBER OPTIC
HH	HANDHOLE
JT	JOINT TRENCH
KV	KILOVOLTS
SS	SANITARY SEWER
UG	UNDERGROUND
W	WATER

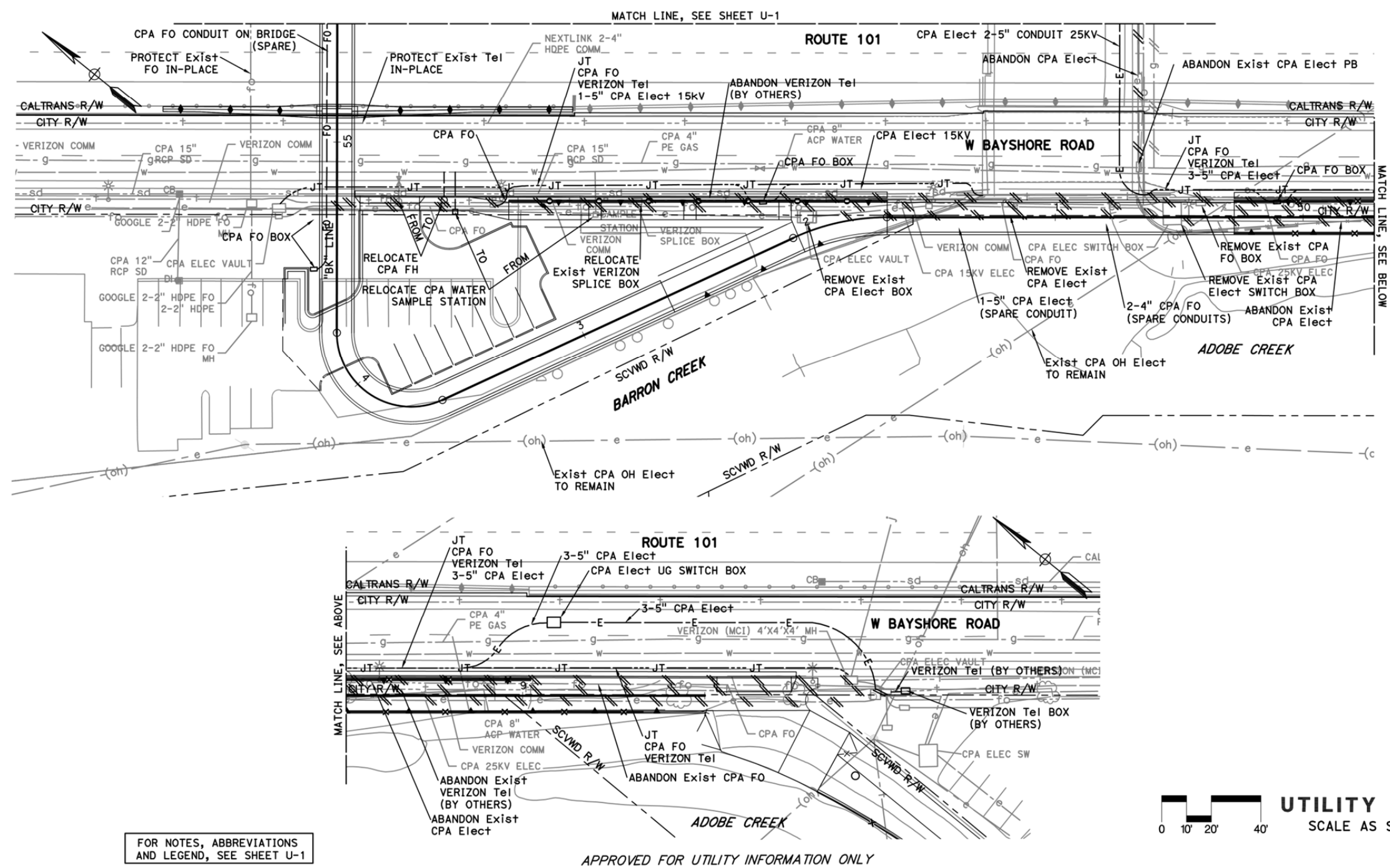


UTILITY PLAN
SCALE AS SHOWN

APPROVED FOR UTILITY INFORMATION ONLY

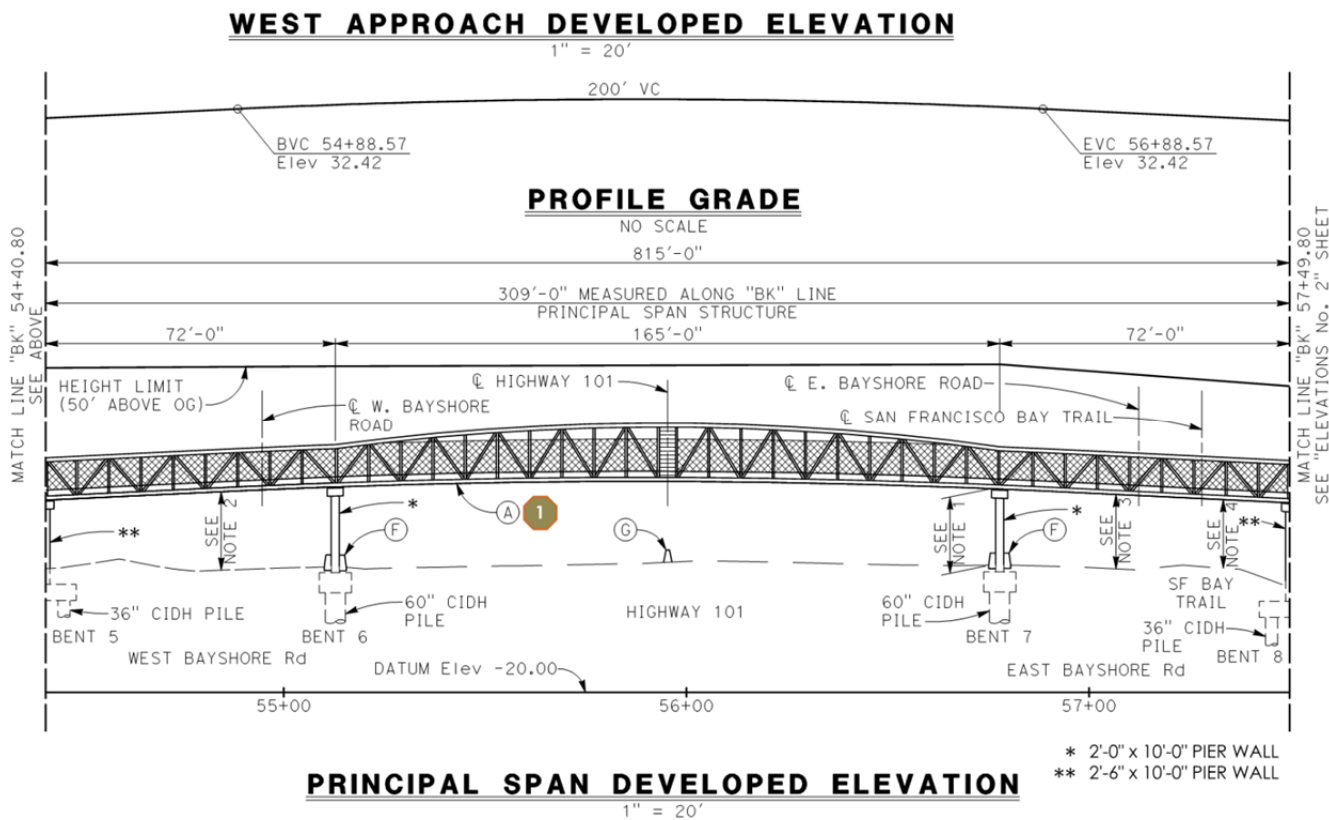
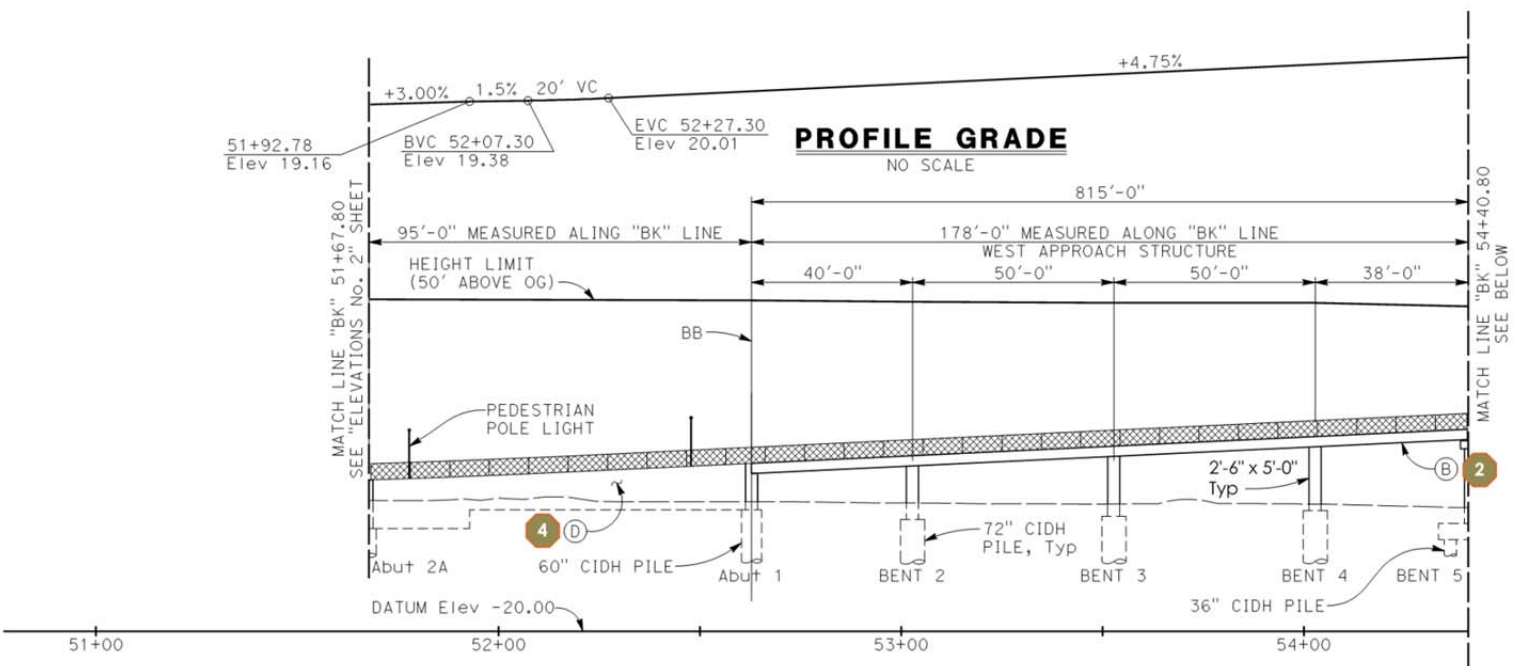
U-1

SITE PLAN – UTILITY PLAN (2 OF 2)



U-2

DEVELOPED STRUCTURE ELEVATION (1 OF 2)



- MATERIALS:**
- 1** Prefabricated Steel Truss (See Sheet 9.2)
MAIN TRUSS – Self Weathering Steel ASTM A588/A606-4
DECKING – Cast-in-place (CIP) Concrete on Metal Decking; Color: Standard Concrete Grey
PANEL RAILINGS – Galvanized Metal Frame
FENCING – 77% Open Weaved Wire Mesh (1" min)
 - 2** Cast-in-Place Reinforced Concrete Slab (See Sheet 9.7)
SUPERSTRUCTURE SLAB – CIP Concrete Reinforced Slab; Color: Standard Concrete Grey
TEXTURAL BANDING – Fractured Fin Surface
PANEL RAILINGS – Galvanized Metal Frame
FENCING – 74% Open Weaved Wire Mesh
BENTS – CIP Concrete with Form-lined Textural Banding; Color: Standard Concrete Grey
 - 3** Prefabricated Steel Truss (See Sheet 9.8)
MAIN TRUSS – Self Weathering Prefabricated Steel Truss
DECKING – CIP Concrete on Metal Decking; Color: Standard Concrete Grey
PANEL RAILINGS – Self-weathering Integrated Metal Rails
 - 4** Retaining Wall (See Sheet 9.9)
CONCRETE WALLS – CIP Concrete with Form-lined Textural Banding; Color: Standard Concrete Grey
TEXTURAL BANDING – Fractured Fin Surface
RAILINGS – Metal Post with Welded Wire Mesh Fence

- LEGEND:**
- (A) Prefabricated Steel Truss
 - (B) Cast-in-Place Reinforced Concrete Slab
 - (C) Retaining Wall (Type 1A)
 - (D) Retaining Wall (Type 5)
 - (E) Reconfigure Existing Parking Lot
 - (F) Concrete Barrier (Type 60F)
 - (G) Exist Concrete Median Barrier

- NOTES:**
- 18'-11"± Min vertical clearance over Highway 101. 18'-6" Min vertical clearance required.
 - 19'-1"± Min vertical clearance over West Bayshore Road. 17'-0" Min vertical clearance required.
 - 18'-2"± Min vertical clearance over East Bayshore Road. 17'-0" Min vertical clearance required.
 - 16'-3"± Min vertical clearance over San Francisco Bay Trail. 10'-0" Min vertical clearance required.
 - All elevations shown are NAVD 88.

TABLE A: STRUCTURE HEIGHT					
	ORIGINAL GROUND (OG) ELEVATION	TOP OF DECK ELEVATION	TOP OF RAIL/TRUSS ELEVATION	DECK HEIGHT ABOVE OG	STRUCTURE HEIGHT ABOVE OG
ABUT 1	12.20	21.70	25.64	9.5	13.44
BENT 2	11.83	23.60	27.54	11.77	15.71
BENT 3	11.65	25.97	33.91	14.32	22.26
BENT 4	12.00	28.35	36.29	16.35	24.29
BENT 5	10.90	30.15	38.09	19.25	27.19
BENT 6	11.04	33.43	41.37	22.39	30.33
CL Hwy 101	12.82	34.78	46.72	21.96	33.90
BENT 7	11.48	32.90	40.84	21.42	29.36
BENT 8	7.47	29.51	37.45	22.04	29.98

PLAN CHECK SET/NOT FOR CONSTRUCTION (7/25/17)

DEVELOPED STRUCTURE ELEVATION (2 OF 2)

Note:
For Materials and Legend, see Sheet 4.1

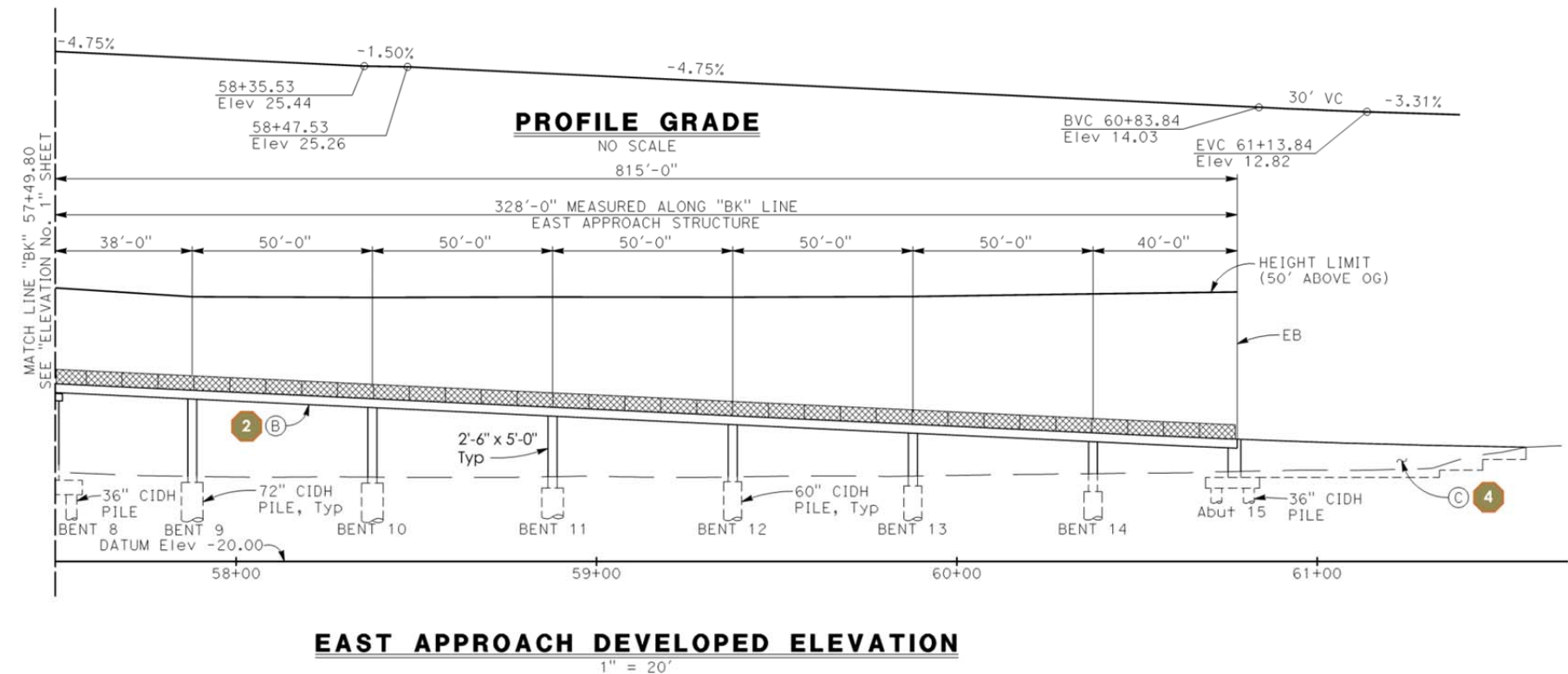
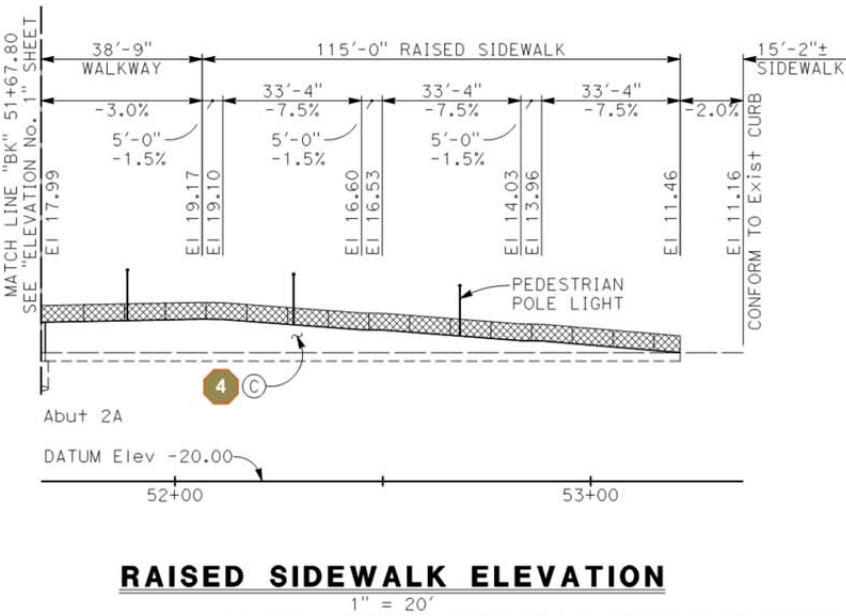
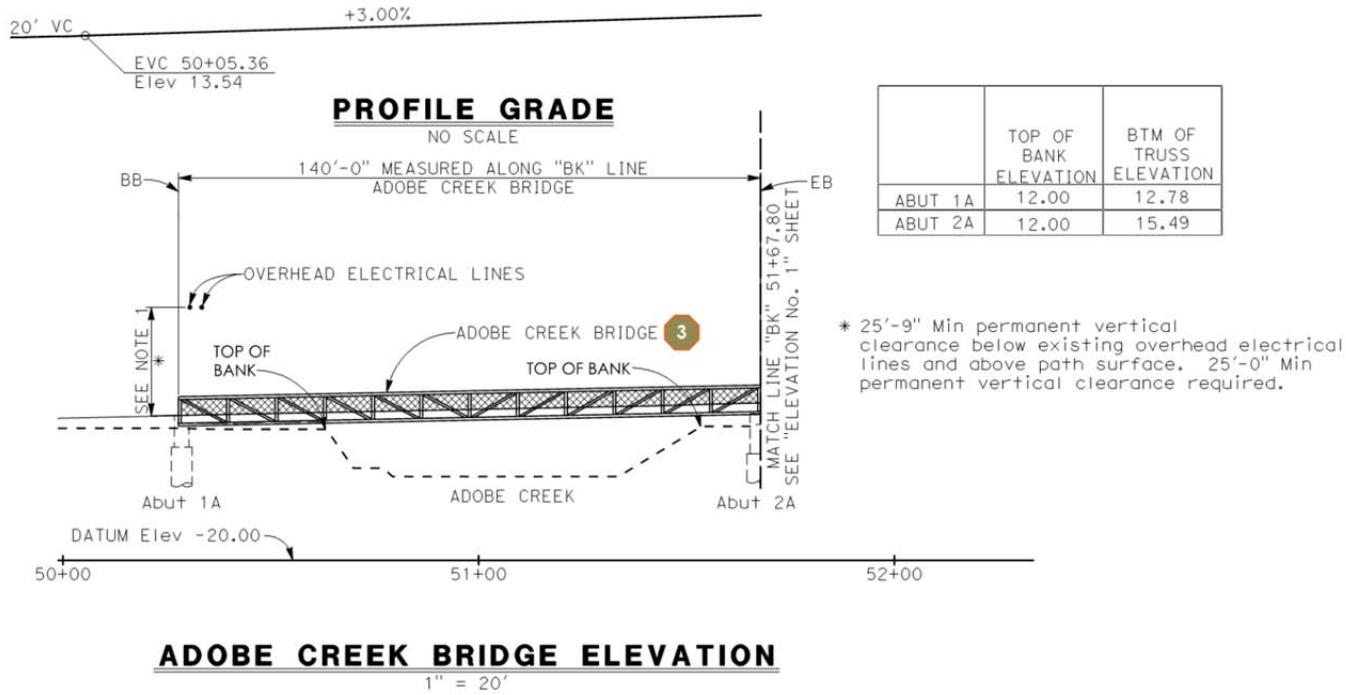
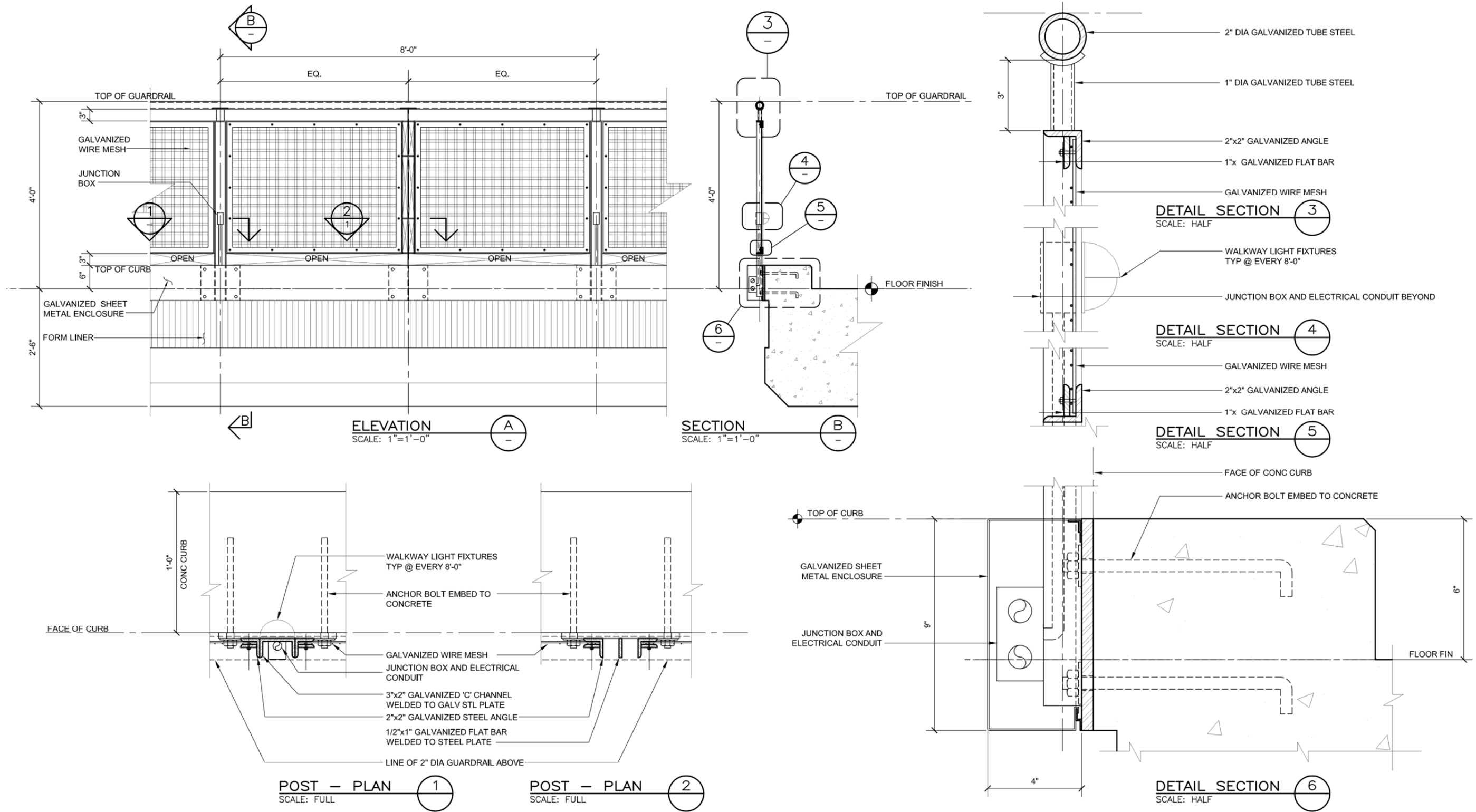


TABLE B: STRUCTURE HEIGHT					
	ORIGINAL GROUND (OG) ELEVATION	TOP OF DECK ELEVATION	TOP OF RAIL/TRUSS ELEVATION	DECK HEIGHT ABOVE OG	STRUCTURE HEIGHT ABOVE OG
BENT 8	7.47	29.51	37.45	22.04	29.98
BENT 9	3.51	27.70	31.64	24.19	28.13
BENT 10	3.30	25.41	29.35	22.11	26.05
BENT 11	3.50	23.35	27.29	19.85	23.79
BENT 12	3.62	20.97	24.91	17.35	21.29
BENT 13	3.56	18.60	22.54	15.04	18.98
BENT 14	4.48	16.22	20.16	11.74	15.68
ABUT 15	5.20	14.32	18.26	9.12	13.06
ABUT 1A	11.50	14.21	18.62	2.71	7.12
ABUT 2A	12.00	18.41	22.82	6.41	10.82



PLAN CHECK SET/NOT FOR CONSTRUCTION (7/25/17)

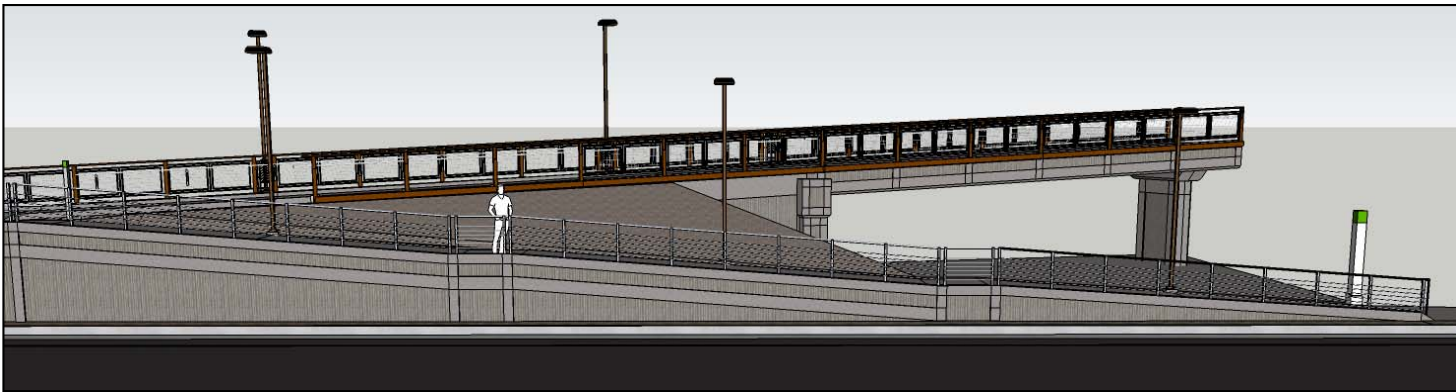
ARCHITECTURAL GUARDRAIL ELEVATION AND DETAILS



RENDERED ELEVATIONS



PRINCIPAL SPAN ELEVATION

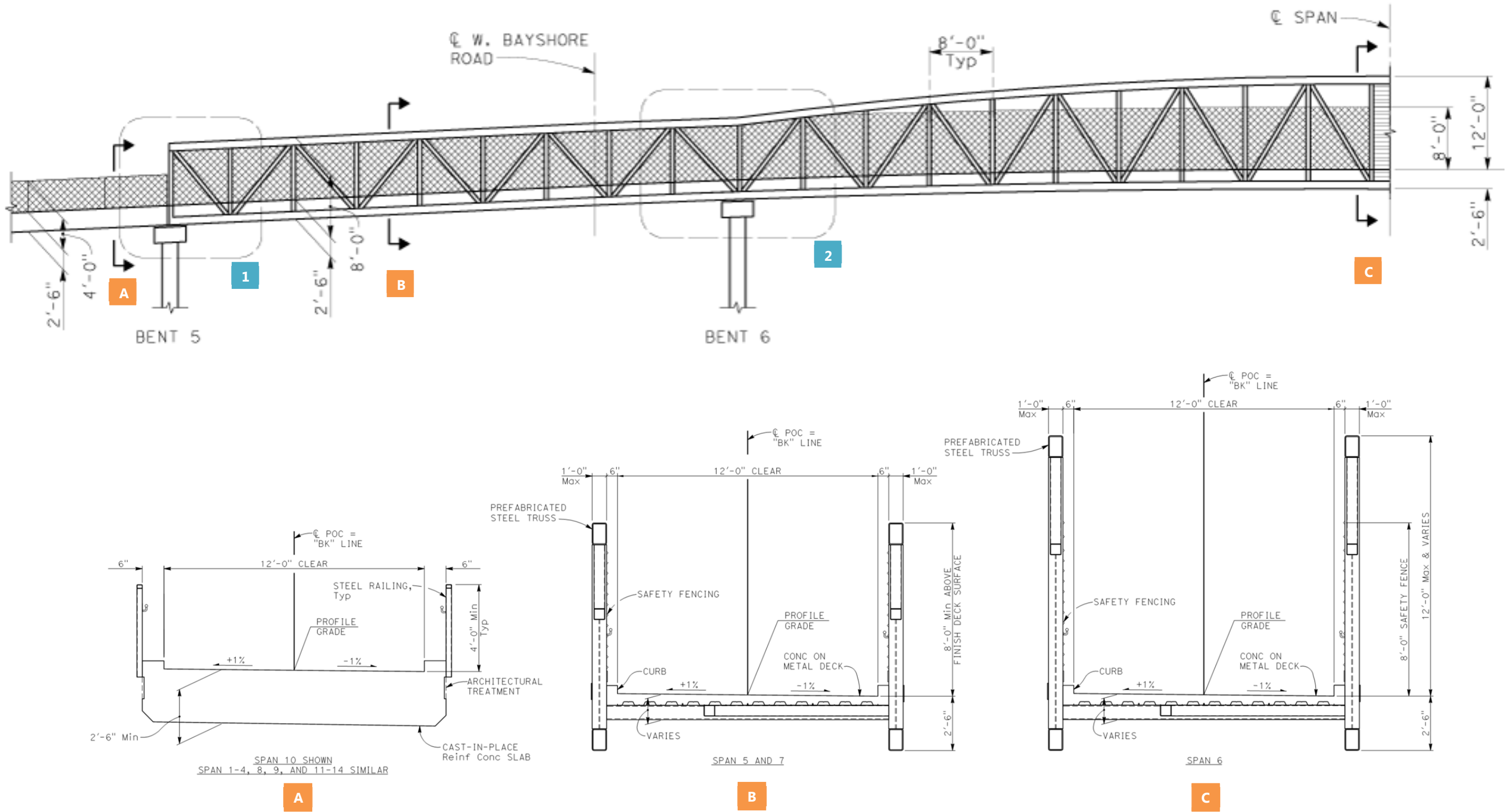


ACCESS RAMP WALL ELEVATION

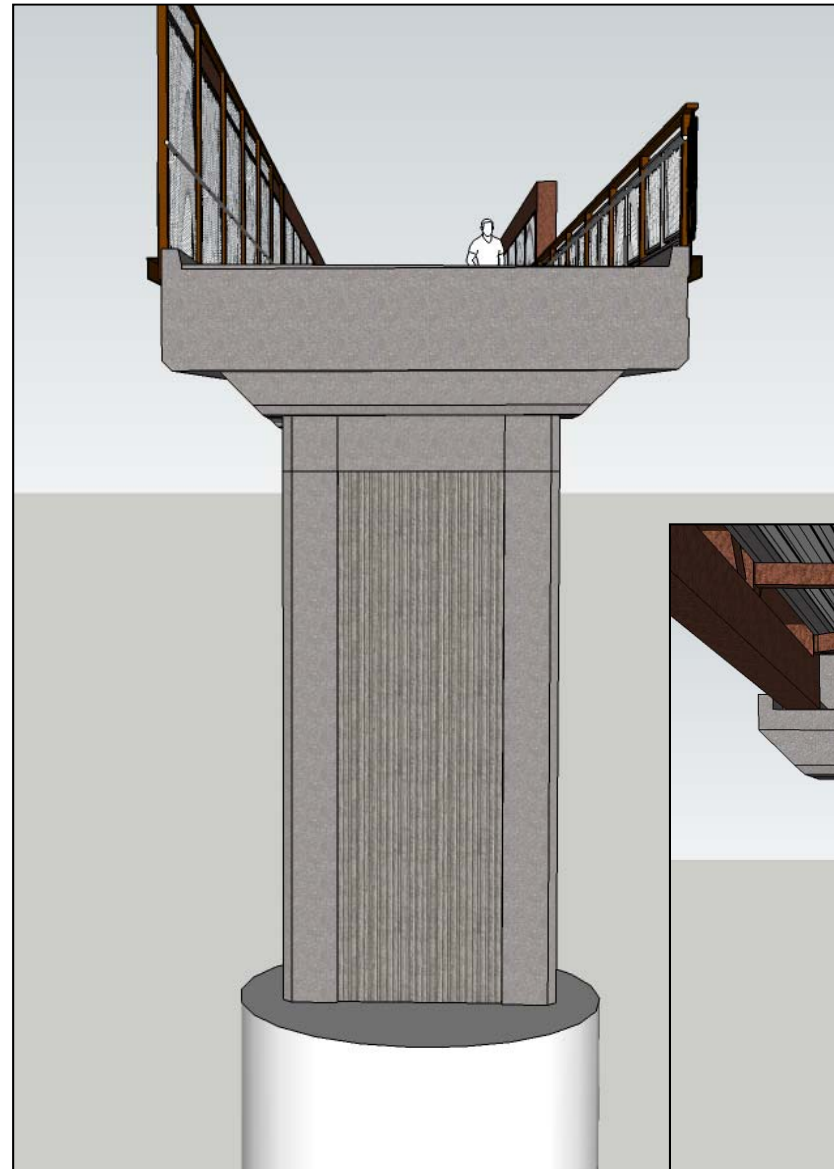


CREEK WALL ELEVATION

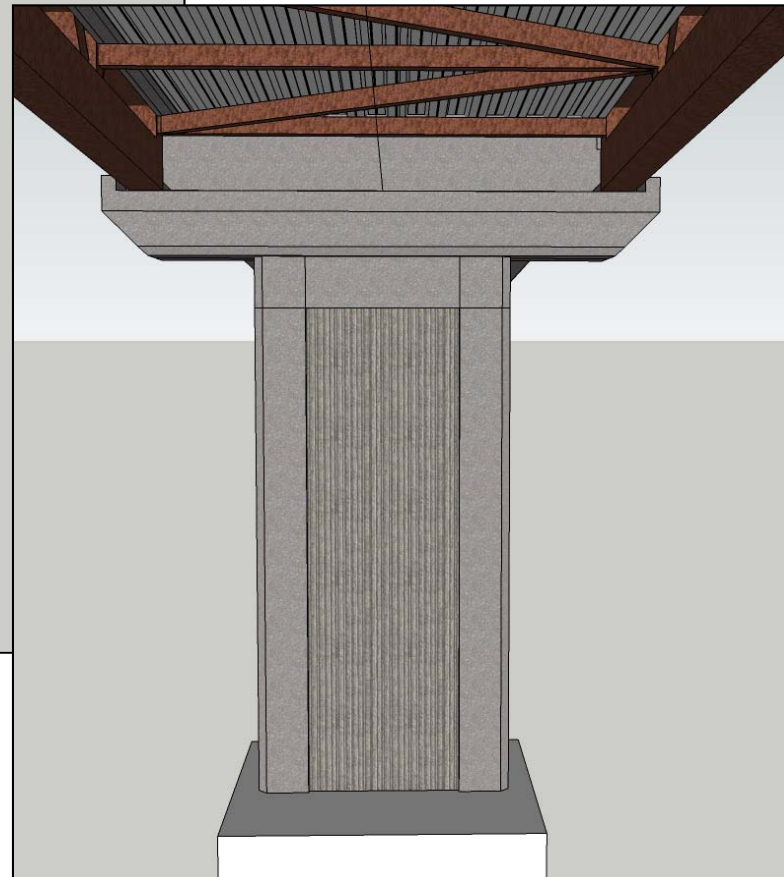
STRUCTURE SECTIONS



RENDERED SECTIONS



TYPICAL RAMP BENT (Bent 4 Shown, others similar)



AT BENTS 5 TO 8

BENT SCHEMATICS



PRINCIPAL SPAN

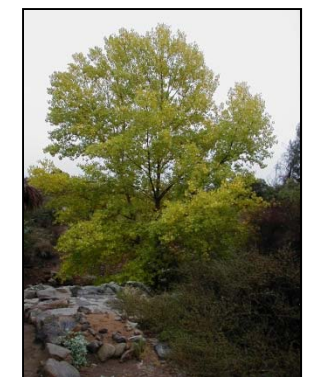
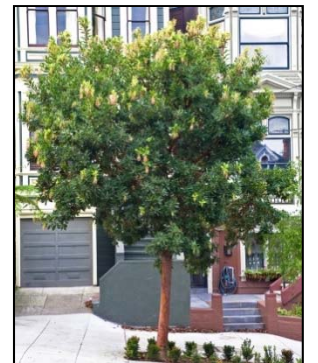
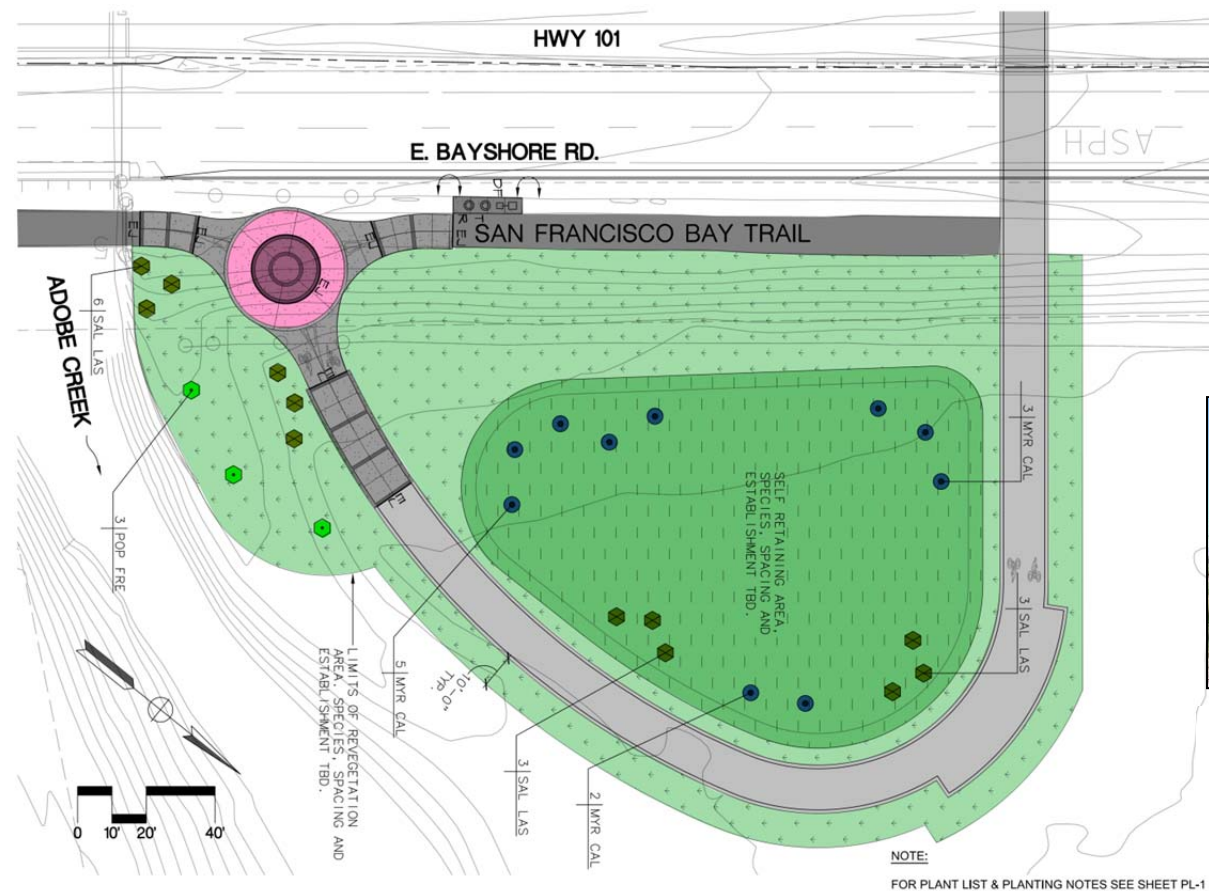
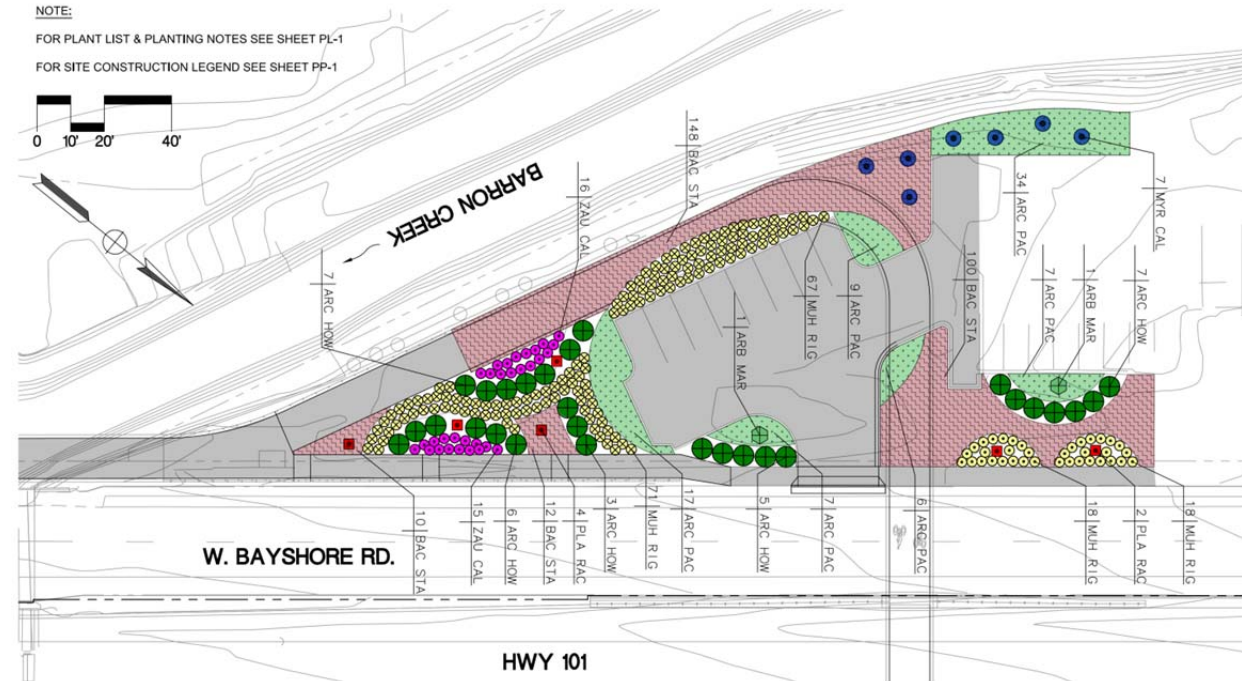


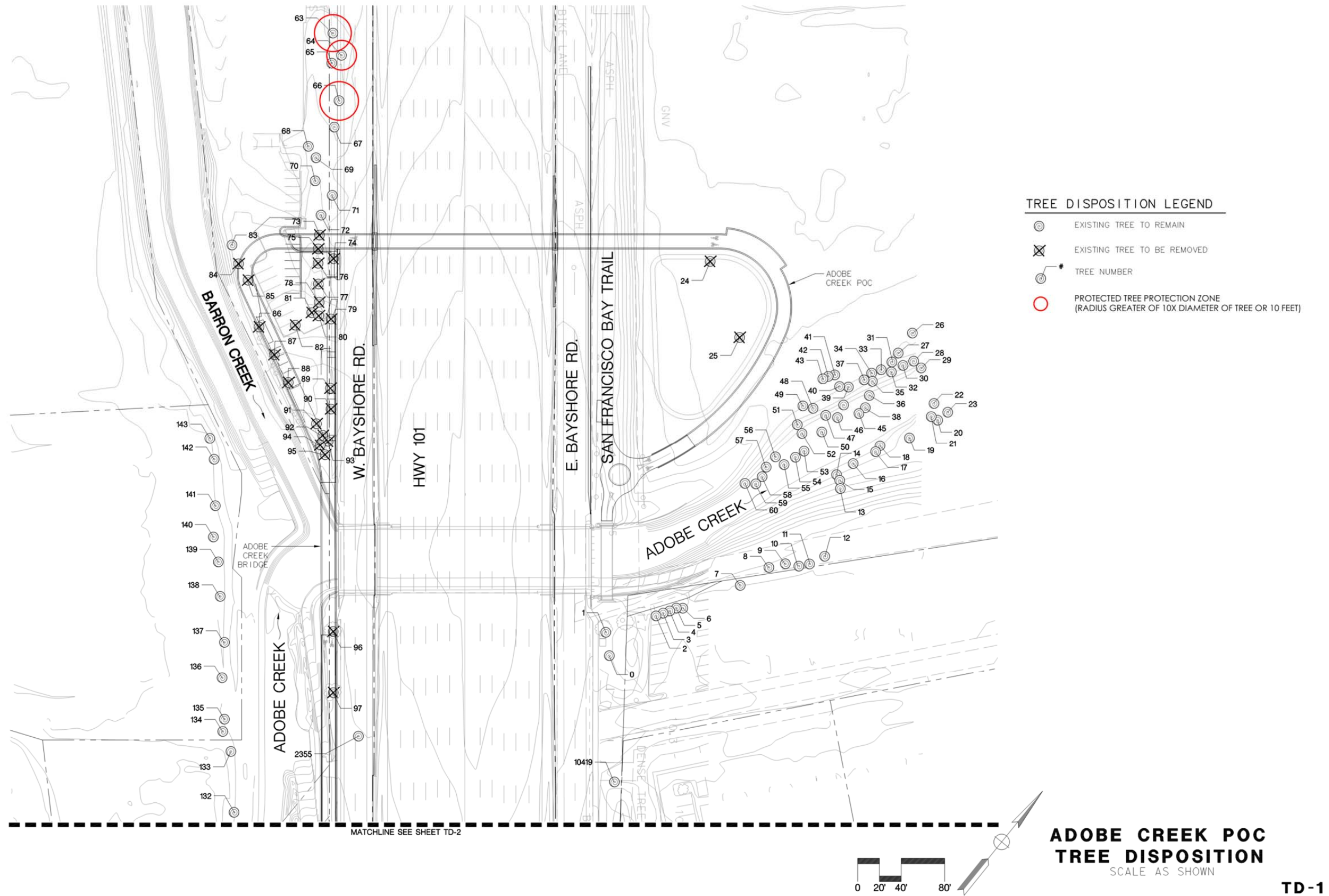
ACCESS RAMP

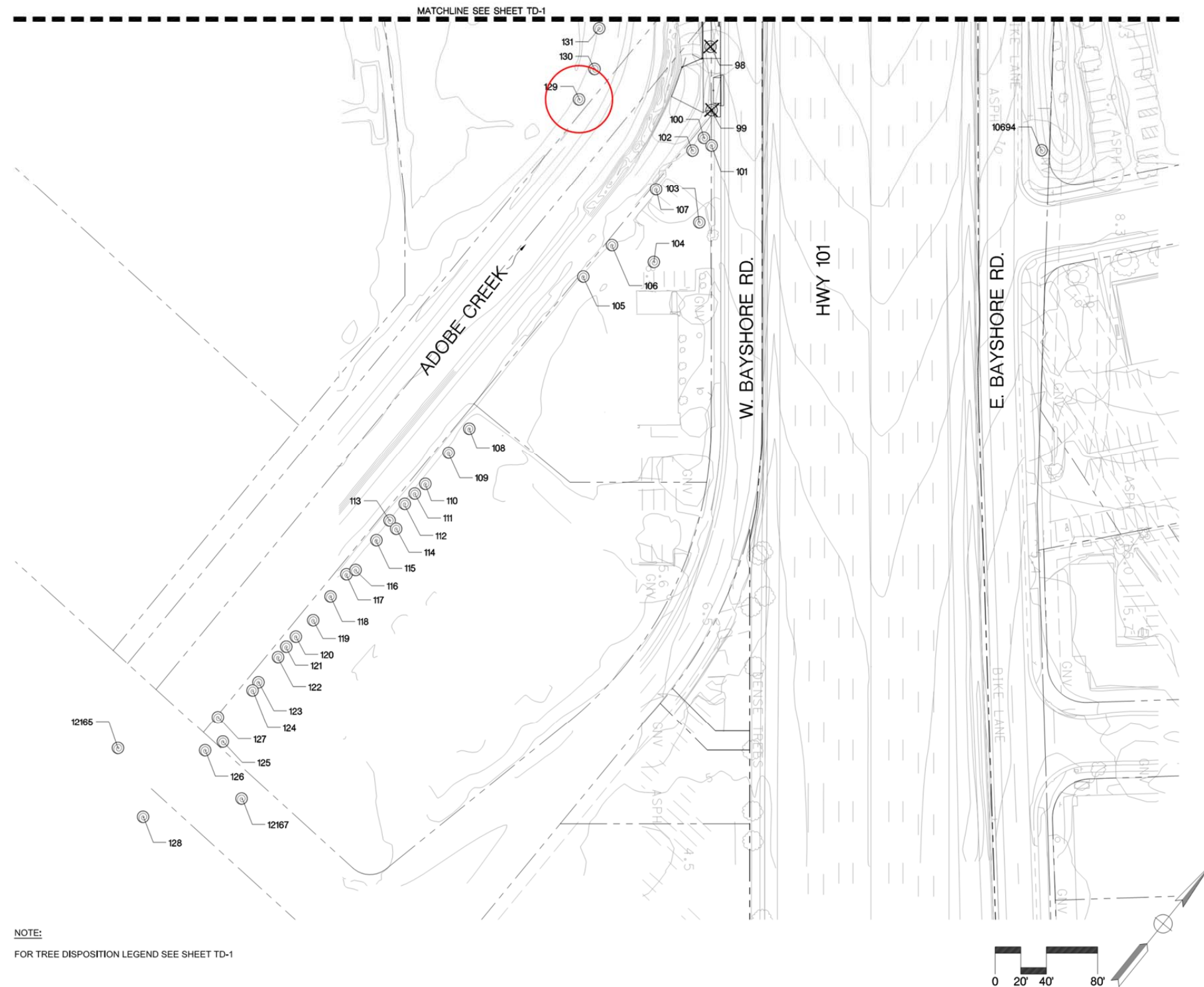
Landscaping is limited to restoration of areas disturbed by project. Primary areas for restoration include:

The portion of the Baylands under and adjacent to the Eastern Approach

1. Structure which will be restored with native grasses and planting as well as some hardscape and planting at the east plaza where the East Approach Structure joins the San Francisco Bay Trail. Trail head amenities in the form of trash and recycling receptacles as well as an optional drinking fountain and bottle filling station.
2. Disturbed areas of the Google Parking Lot under and adjacent to the Western Approach Structure will be landscape to provide screening to the structure and will include accommodation of a retention area, replacement of existing landscaping trees affected by construction and reconfiguration of the existing Google Parking lot resulting in no net loss of parking.
3. The west plaza at the Adobe Creek Reach Trail Head will include hardscaping at the plaza and existing aggregate base along the SCVWD maintenance road compatible with the regular SCVWD maintenance operations and materials, as well as proposed trail head amenities including trash and recycling receptacles and an optional drinking fountain and bottle filling station.
4. Storm water collection into retention systems will include native planting and drainage swales leading into retention basins to filter storm-water. These systems will be located in landscaping areas in the Baylands.







Tree ID			Tree Size				Tree Condition		Characteristics		Disposition	Comments
Tree No.	Genus / Species	Common Name	DBH (in)	Trunk Count	Height (ft)	Canopy Width (ft)	Health	Structure	Protected	Private		
0	<i>Casuarina equisetifolia</i>	Beach sheoak	19	1	45-60	35	Good	Fair			Remain	
1	<i>Casuarina equisetifolia</i>	Beach sheoak	20	1	45-60	35	Good	Good			Remain	
2	<i>Melaleuca quinquenervia</i>	Punktree	10	2	15-30	12	Good	Good			Remain	
3	<i>Melaleuca quinquenervia</i>	Punktree	12	3	15-30	10	Good	Fair			Remain	
4	<i>Melaleuca quinquenervia</i>	Punktree	11	2	15-30	12	Good	Good			Remain	
5	<i>Melaleuca quinquenervia</i>	Punktree	13	1	15-30	20	Good	Good			Remain	
6	<i>Melaleuca quinquenervia</i>	Punktree	14	1	15-30	20	Good	Good			Remain	
7	<i>Casuarina equisetifolia</i>	Beach sheoak	21	1	45-60	25	Fair	Fair		Yes	Remain	Pruned one side
8	<i>Casuarina equisetifolia</i>	Beach sheoak	16	0	30-45	20	Fair	Fair			Remain	
9	<i>Casuarina equisetifolia</i>	Beach sheoak	10	1	15-30	20	Fair	Fair			Remain	
10	<i>Casuarina equisetifolia</i>	Beach sheoak	10	1	15-30	20	Fair	Fair			Remain	
11	<i>Casuarina equisetifolia</i>	Beach sheoak	9	1	15-30	10	Fair	Fair			Remain	
12	<i>Casuarina equisetifolia</i>	Beach sheoak	10	1	15-30	0	Fair	Fair			Remain	
13	<i>Salix species</i>	Willow	22	2	15-30	40	Good	Good			Remain	Next to creek
14	<i>Salix species</i>	Willow	13	3	15-30	20	Good	Good			Remain	Next to creek
15	<i>Salix species</i>	Willow	5	1	0-15	8	Good	Good			Remain	
16	<i>Eucalyptus species</i>	Eucalyptus	25	1	45-60	50	Fair	Fair			Remain	Next to creek, many branch failures
17	<i>Salix species</i>	Willow	15	3	15-30	35	Good	Good			Remain	On creek bank
18	<i>Eucalyptus species</i>	Eucalyptus	30	0	60-75	40	Good	Good			Remain	On creek bank
19	<i>Fraxinus uhdei</i>	Shamel ash	7	2	15-30	20	Good	Good			Remain	Next to creek
20	<i>Pistacia chinensis</i>	Chinese pistache	4	0	15-30	10	Fair	Fair			Remain	
21	<i>Eucalyptus species</i>	Eucalyptus	20	2	30-45	40	Fair	Fair			Remain	Broken branches
22	<i>Fraxinus uhdei</i>	Shamel ash	4	2	15-30	18	Good	Good			Remain	Near creek
23	<i>Fraxinus uhdei</i>	Shamel ash	3	1	15-30	10	Good	Good			Remain	Next to creek
24	<i>Acacia melanoxylon</i>	Black acacia	8	9	15-30	20	—	Good			Remove	
25	<i>Eucalyptus species</i>	Eucalyptus	9	1	15-30	20	—	Good			Remove	
26	<i>Eucalyptus species</i>	Eucalyptus	19	1	45-60	25	Fair	Fair			Remain	
27	<i>Eucalyptus species</i>	Eucalyptus	10	1	30-45	20	Poor	Poor			Remain	Half dead
28	<i>Eucalyptus species</i>	Eucalyptus	10	1	30-45	20	Good	Fair			Remain	
29	<i>Eucalyptus species</i>	Eucalyptus	16	1	45-60	35	Good	Good			Remain	

Tree ID			Tree Size				Tree Condition		Characteristics		Disposition	Comments
Tree No.	Genus / Species	Common Name	DBH (in)	Trunk Count	Height (ft)	Canopy Width (ft)	Health	Structure	Protected	Private		
30	<i>Eucalyptus species</i>	Eucalyptus	17	1	60-75	50	Good	Good			Remain	
31	<i>Eucalyptus species</i>	Eucalyptus	18	5	30-45	35	Good	Good			Remain	
32	<i>Eucalyptus species</i>	Eucalyptus	7	1	15-30	20	Good	Fair			Remain	Heavy lean
33	<i>Eucalyptus species</i>	Eucalyptus	5	1	15-30	20	Good	Good			Remain	
34	<i>Eucalyptus species</i>	Eucalyptus	9	1	45-60	20	Good	Good			Remain	
35	<i>Eucalyptus species</i>	Eucalyptus	14	1	45-60	35	Good	Good			Remain	
36	<i>Eucalyptus species</i>	Eucalyptus	13	1	45-60	35	Good	Good			Remain	
37	<i>Eucalyptus species</i>	Eucalyptus	11	1	30-45	25	Good	Good			Remain	
38	<i>Eucalyptus species</i>	Eucalyptus	8	1	30-45	20	Fair	Fair			Remain	Dead branches
39	<i>Eucalyptus species</i>	Eucalyptus	7	1	30-45	20	Good	Good			Remain	
40	<i>Eucalyptus species</i>	Eucalyptus	12	1	45-60	35	Good	Good			Remain	Low branches
41	<i>Eucalyptus species</i>	Eucalyptus	14	1	60-75	35	Good	Good			Remain	
42	<i>Eucalyptus species</i>	Eucalyptus	12	1	45-60	25	Good	Good			Remain	
43	<i>Eucalyptus species</i>	Eucalyptus	20	2	60-75	30	Good	Good			Remain	Heavy lean
44	<i>Eucalyptus species</i>	Eucalyptus	10	2	30-45	35	Good	Good			Remain	
45	<i>Eucalyptus species</i>	Eucalyptus	17	1	45-60	35	Fair	Fair			Remain	
46	<i>Eucalyptus species</i>	Eucalyptus	9	1	30-45	20	Poor	Poor			Remain	95% dead
47	<i>Eucalyptus species</i>	Eucalyptus	17	1	45-60	35	Good	Good			Remain	
48	<i>Eucalyptus species</i>	Eucalyptus	3	1	0-15	10	Good	Good			Remain	
49	<i>Eucalyptus species</i>	Eucalyptus	10	1	15-30	20	Fair	Fair			Remain	
50	<i>Eucalyptus species</i>	Eucalyptus	13	1	45-60	35	Good	Good			Remain	
51	<i>Eucalyptus species</i>	Eucalyptus	22	1	60-75	50	Good	Good			Remain	
52	<i>Eucalyptus species</i>	Eucalyptus	10	1	30-45	25	Good	Good			Remain	
53	<i>Eucalyptus species</i>	Eucalyptus	22	1	60-75	50	Good	Good			Remain	
54	<i>Eucalyptus species</i>	Eucalyptus	9	1	15-30	20	Poor	Poor			Remain	Broken branches
55	<i>Eucalyptus species</i>	Eucalyptus	15	1	45-60	35	Good	Good			Remain	
56	<i>Eucalyptus species</i>	Eucalyptus	15	2	30-45	25	Good	Good			Remain	
57	<i>Eucalyptus species</i>	Eucalyptus	17	4	15-30	25	Fair	Fair			Remain	Growing parallel with ground
58	<i>Eucalyptus species</i>	Eucalyptus	19	1	60-75	35	Good	Good			Remain	
59	<i>Eucalyptus species</i>	Eucalyptus	26	3	45-60	40	Good	Good			Remain	Forked at ground level
60	<i>Eucalyptus species</i>	Eucalyptus	17	1	45-60	35	Good	Good			Remain	Heavy lean

Tree ID			Tree Size				Tree Condition		Characteristics		Disposition	Comments
Tree No.	Genus / Species	Common Name	DBH (in)	Trunk Count	Height (ft)	Canopy Width (ft)	Health	Structure	Protected	Private		
63	<i>Quercus agrifolia</i>	Coast live oak	21	1	30-45	40	Good	Good	Yes		Remain	
64	<i>Quercus agrifolia</i>	Coast live oak	17	1	30-45	30	Good	Good	Yes		Remain	
65	<i>Platanus x acerifolia</i>	London planetree	17	1	30-45	30	Fair	Good			Remain	
66	<i>Quercus agrifolia</i>	Coast live oak	22	1	—	0	Good	Good	Yes		Remain	
67	<i>Platanus x acerifolia</i>	London planetree	16	1	—	0	Good	Good			Remain	
68	<i>Pyrus species</i>	Pear	13	1	30-45	30	Good	Good			Remain	
69	<i>Pyrus species</i>	Pear	13	1	15-30	30	Good	Good			Remain	
70	<i>Pyrus species</i>	Pear	11	1	0-15	30	Good	Good			Remain	
71	<i>Platanus x acerifolia</i>	London planetree	13	1	15-30	30	Fair	Fair			Remain	
72	<i>Pinus species</i>	Pine	16	2	15-30	25	Good	Good			Remain	
73	<i>Pinus species</i>	Pine	15	2	15-30	25	Good	Good			Remove	
74	<i>Platanus x acerifolia</i>	London planetree	17	3	0-15	25	Fair	Fair			Remove	Street tree
75	<i>Maytenus boaria</i>	Mayten	9	1	0-15	10	Good	Good			Remove	
76	<i>Maytenus boaria</i>	Mayten	7	1	0-15	10	Fair	Fair			Remove	
77	<i>Maytenus boaria</i>	Mayten	5	1	0-15	15	Fair	Fair			Remove	
78	<i>Maytenus boaria</i>	Mayten	7	1	0-15	10	Fair	Fair			Remove	
79	<i>Platanus x acerifolia</i>	London planetree	14	1	0-15	30	Fair	Fair			Remove	Street tree
80	<i>Pinus canariensis</i>	Canary Island pine	15	1	30-45	15	Good	Good			Remove	
81	<i>Pinus canariensis</i>	Canary Island pine	13	3	15-30	10	Good	Good			Remove	
82	<i>Pinus radiata</i>	Monterrey pine	30	1	30-45	40	Good	Good			Remove	
83	<i>Schinus terebinthifolius</i>	Brazilian peppertree	8	1	0-15	15	Fair	Fair			Remain	
84	<i>Schinus terebinthifolius</i>	Brazilian peppertree	8	1	0-15	20	Critical	Critical			Remove	50% dead
85	<i>Schinus terebinthifolius</i>	Brazilian peppertree	11	1	15-30	20	Good	Good			Remove	
86	<i>Lagerstroemia species</i>	Crapemyrtle	3	1	0-15	8	Good	Good			Remove	
87	<i>Lagerstroemia species</i>	Crapemyrtle	3	1	0-15	10	Good	Good			Remove	
88	<i>Lagerstroemia species</i>	Crapemyrtle	3	1	0-15	10	Good	Good			Remove	
89	<i>Platanus x acerifolia</i>	London planetree	24	1	30-45	40	Good	Good			Remove	Street tree
90	<i>Pinus canariensis</i>	Canary Island pine	27	1	45-60	30	Good	Good			Remove	Street tree
91	<i>Fagus species</i>	Beech	2	1	0-15	5	Good	Good			Remove	
92	<i>Prunus species</i>	Plum or cherry	7	3	0-15	15	Good	Good			Remove	
93	<i>Lagerstroemia species</i>	Crapemyrtle	2	3	0-15	8	Good	Good			Remove	

Tree ID			Tree Size				Tree Condition		Characteristics		Disposition	Comments
Tree No.	Genus / Species	Common Name	DBH (in)	Trunk Count	Height (ft)	Canopy Width (ft)	Health	Structure	Protected	Private		
94	<i>Prunus species</i>	Plum or cherry	2	1	0-15	5	Good	Good			Remove	
95	<i>Pyrus species</i>	Pear	4	1	0-15	8	Good	Good			Remove	
96	<i>Ligustrum lucidum</i>	Privet	13	1	15-30	15	Good	Good			Remove	Street tree
97	<i>Ligustrum lucidum</i>	Privet	9	1	15-30	10	Fair	Fair			Remove	Street tree
98	<i>Platanus x acerifolia</i>	London planetree	16	1	30-45	30	Good	Good			Remove	Street tree
99	<i>Platanus x acerifolia</i>	London planetree	10	1	30-45	25	Good	Good			Remove	Street tree
100	<i>Platanus x acerifolia</i>	London planetree	3	1	15-30	10	Good	Good			Remain	
101	<i>Pinus canariensis</i>	Canary Island pine	4	1	0-15	8	Good	Good			Remain	
102	<i>Cotinus species</i>	Japanese smoke tree	2	4	0-15	6	Good	Good			Remain	
103	<i>Platanus x acerifolia</i>	London planetree	3	1	0-15	6	Good	Good			Remain	
104	<i>Platanus x acerifolia</i>	London planetree	3	1	0-15	6	Good	Good			Remain	
105	<i>Platanus x acerifolia</i>	London planetree	3	1	0-15	6	Good	Good			Remain	
106	<i>Platanus x acerifolia</i>	London planetree	3	1	0-15	9	Good	Good			Remain	
107	<i>Quercus agrifolia</i>	Coast live oak	3	4	0-15	10	Good	Good	No		Remain	
108	<i>Ligustrum lucidum</i>	Privet	5	1	0-15	7	Good	Good			Remain	
109	<i>Fraxinus species</i>	Ash	4	1	0-15	10	Good	Good			Remain	
110	<i>Fraxinus species</i>	Ash	4	1	0-15	100	Good	Good			Remain	
111	<i>Fraxinus species</i>	Ash	11	2	15-30	20	Good	Good			Remain	
112	<i>Fraxinus species</i>	Ash	3	2	15-30	10	Good	Good			Remain	
113	<i>Fraxinus species</i>	Ash	4	1	15-30	8	Good	Good			Remain	
114	<i>Fraxinus species</i>	Ash	23	1	30-45	30	Good	Good			Remain	
115	<i>Fraxinus species</i>	Ash	4	1	15-30	10	Good	Good			Remain	
116	<i>Fraxinus species</i>	Ash	11	2	15-30	20	Good	Good			Remain	
117	<i>Ligustrum lucidum</i>	Privet	7	3	15-30	20	Good	Good			Remain	
118	<i>Fraxinus species</i>	Ash	4	1	15-30	10	Good	Good			Remain	
119	<i>Ligustrum lucidum</i>	Privet	8	2	15-30	25	Good	Good			Remain	
120	<i>Ligustrum lucidum</i>	Privet	6	2	15-30	20	Good	Good			Remain	
121	<i>Fraxinus species</i>	Ash	11	1	15-30	30	Good	Good			Remain	
122	<i>Ligustrum lucidum</i>	Privet	5	1	0-15	7	Good	Good			Remain	
123	<i>Fraxinus species</i>	Ash	4	1	15-30	7	Good	Good			Remain	
124	<i>Fraxinus species</i>	Ash	13	2	15-30	30	Good	Good			Remain	

Tree ID			Tree Size				Tree Condition		Characteristics		Disposition	Comments
Tree No.	Genus / Species	Common Name	DBH (in)	Trunk Count	Height (ft)	Canopy Width (ft)	Health	Structure	Protected	Private		
125	<i>Fraxinus species</i>	Ash	22	1	30-45	30	Good	Good			Remain	
126	<i>Fraxinus species</i>	Ash	11	1	15-30	20	Fair	Fair			Remain	
127	<i>Fraxinus species</i>	Ash	3	1	15-30	5	Good	Good			Remain	
128	<i>Pinus species</i>	Pine	21	1	15-30	30	Good	Good			Remain	
129	<i>Quercus agrifolia</i>	Coast live oak	32	1	30-45	30	Good	Good	Yes		Remain	
130	<i>Quercus species</i>	Oak	10	5	0-15	30	Good	Good	No		Remain	Cluster
131	<i>Quercus ilex</i>	Holly oak	6	1	15-30	10	Good	Good			Remain	
132	<i>Quercus agrifolia</i>	Coast live oak	7	2	15-30	15	Good	Good	No		Remain	
133	<i>Eucalyptus polyanthemos</i>	Silver dollar gum	10	6	15-30	25	Good	Good			Remain	
134	<i>Sequoia sempervirens</i>	Redwood	12	1	15-30	10	Good	Good	No		Remain	
135	<i>Sequoia sempervirens</i>	Redwood	13	1	0-15	10	Fair	Fair	No		Remain	
136	<i>Eucalyptus sideroxylon</i>	Red ironbark	18	1	15-30	30	Good	Good			Remain	
137	<i>Eucalyptus sideroxylon</i>	Red ironbark	11	0	15-30	20	Good	Good			Remain	
138	<i>Eucalyptus sideroxylon</i>	Red ironbark	11	1	15-30	25	Good	Good			Remain	
139	<i>Eucalyptus sideroxylon</i>	Red ironbark	23	1	15-30	30	Good	Good			Remain	
140	<i>Eucalyptus sideroxylon</i>	Red ironbark	16	1	15-30	25	Good	Good			Remain	
141	<i>Eucalyptus sideroxylon</i>	Red ironbark	15	1	15-30	25	Good	Good			Remain	
142	<i>Eucalyptus sideroxylon</i>	Red ironbark	17	1	15-30	25	Good	Good			Remain	
143	<i>Eucalyptus sideroxylon</i>	Red ironbark	14	1	15-30	20	Good	Good			Remain	
2355	<i>Unknown</i>	Unknown	—	—	—	—	—	—			—	No data
10419	<i>Unknown</i>	Small tree	—	—	—	—	—	—		Yes	Remain	
10694	<i>Ulmus parvifolia</i>	Chinese elm	15	1	40-45	—	Good	Fair			Remain	
12165	<i>Fraxinus uhdei</i>	Shamel ash	11	1	25-30	—	Good	Fair			Remain	
12167	<i>Fraxinus uhdei</i>	Shamel ash	15	1	35-40	—	Fair	Fair			Remain	

TOTAL TREES REMOVED = 28	TOTAL TREES PLANTED = 66
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Abbreviations

AMEND - Amendment
DIA - Diameter
EA - Each
ft - Foot
ft² - Square feet
ft³ - Cubic feet
MIN - Minimum
No. - Number
PLT ESTB - Plant establishment
PVMT - Pavement
R/W - Right of way
TAB - Tablet(s)
TRVD - Traveled way

APPLICABLE WHEN CIRCLED:

- ① Quantities shown are "per plant" unless shown as SQFT OR SQYD application rates.
- ② Sufficient to receive root ball.
- ③ Does not apply to mulch areas.
- ④ As shown on plans.
- ⑤ Unless otherwise shown on plans.
- ⑥ See detail
- ⑦ See Special Provisions.
- ⑧ See specifications
- ⑨ Basin area equivalent to (3 ft.) in diameter.
- ⑩ Mulch shall be installed to three feet from edge of paving/AC dike.
- ⑪ Quantities shown are per 300 ft² application rates.

PLANT LIST AND PLANTING SPECIFICATIONS

PLANT GROUP	PLANT NO.	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY EACH	HOLE SIZE		BASIN TYPE	IRON SULFATE	SOIL AMEND ①	COMMERCIAL FERTILIZER ①		BASIN MULCH ③	STAKING	PLANTING LIMITS MINIMUM DISTANCE FROM			REMARKS	
							DIA	DEPTH				PLANTING	PLT ESTB			PVMT	WALL	ON CENTER		
A	* 1		ARCTOSTAPHYLOS 'PACIFIC MIST'	MANZANITA	NO.1	X	②	②	II	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	—	2'-6"	2'-6"	5'-0"	GROUNDCOVER	SEE X/X FOR DETAIL
	* 2		FESTUCA CALIFORNICA	CALIFORNIA FESCUE		X	②	②	II	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	—	1'-0"	1'-0"	2'-0"	SHRUB	SEE X/X FOR DETAIL
B	* 3		ARCTOSTAPHYLOS 'HOWARD MCMINN'	MANZANITA	NO.5	X	②	②	II	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	—	3'-0"	3'-0"	6'-0"	SHRUB	SEE X/X & X/X FOR DETAIL
	4		BACCHARIS 'STARN'	STARN COYOTE BRUSH		X	②	②	II	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	—	2'-0"	2'-0"	4'-0"	SHRUB	
	5		MUHLENBERGIA RIGENS	DEER GRASS		X	②	②	II	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	—	1'-6"	1'-6"	3'-0"	SHRUB	
	6		ZAUSCHNERIA CALIFORNICA	CALIFORNIA FUCHSIA		X	②	②	II	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF		1'-6"	1'-6"	3'-0"	SHRUB	
K	7		ARBUTUS 'MARINA'	MARINA STRAWBERRY TREE	24" BOX	X	②	②	II ⑨	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	⑥	—	6'-0"	35'-0"	TREE, SEE X/X FOR DETAIL	
	* 8		MYRICA CALIFORNICA	PACIFIC WAX MYRTLE		X	②	②	II ⑨	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	⑥	—	6'-0"	15'-0"		
	9		PLATANUS RACEMOSA	CALIFORNIA SYCAMORE		X	②	②	II ⑨	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	⑥	—	6'-0"	25'-0"		
	10		POPULUS FREMONTII	FREMONT'S COTTONWOOD		X	②	②	II ⑨	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	⑥	—	6'-0"	35'-0"		
U	* 11		SALIX LASIOLEPIS	ARROYO WILLOW	NO.15	X	②	②	II ⑨	—	1.5 CF/SQYD	0.2 LB/SQYD	—	2 CF	⑥	—	6'-0"	10'-0"		

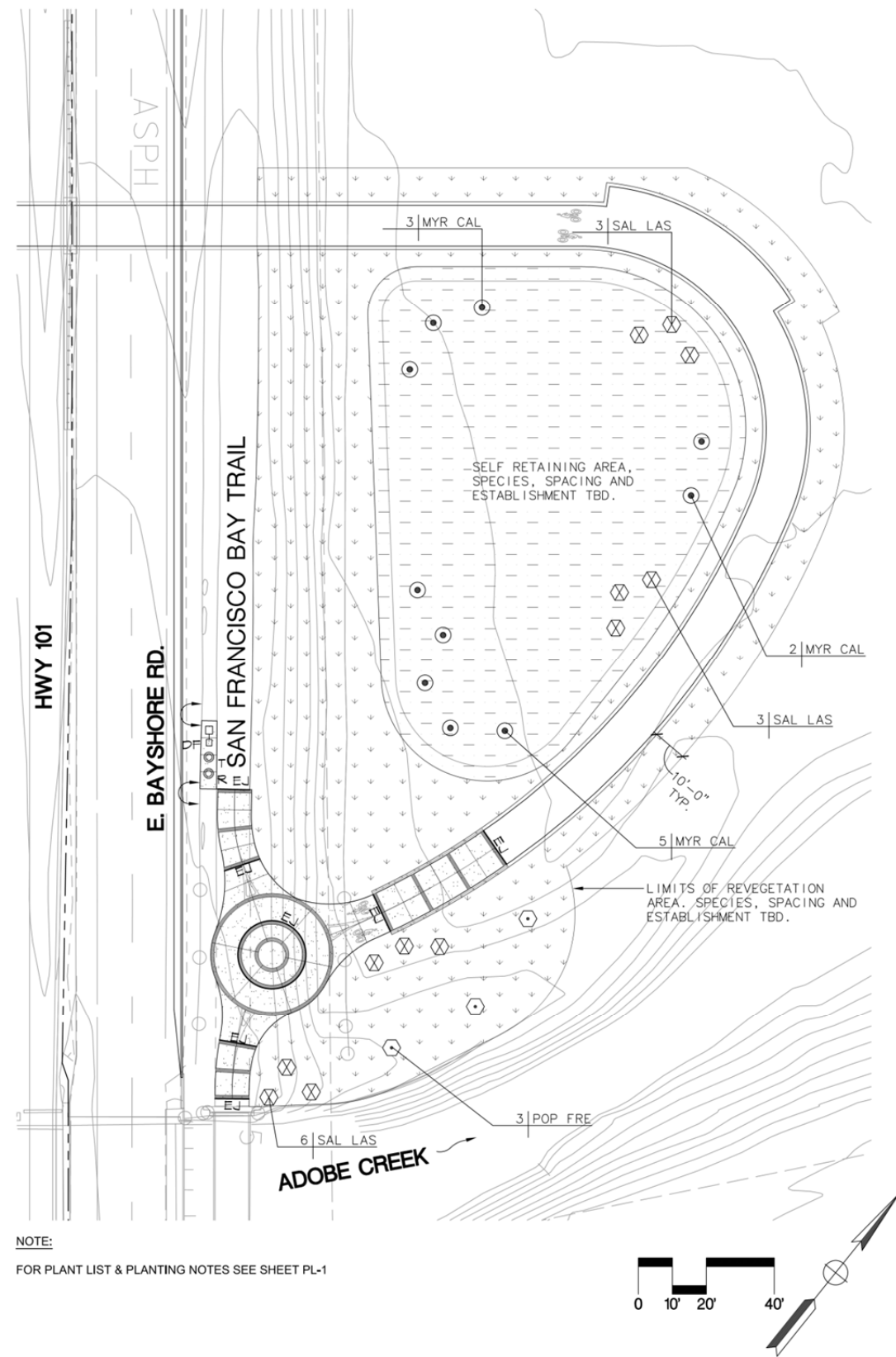
* STORMWATER PLANTS

PLANTING NOTES







- 1. **MULCH:** INSTALL A UNIFORM THREE INCH COVERING OF SMALL DECORATIVE "WALK ON" MULCH, ½ INCH TO ¾ INCH PARTICLE SIZE IN ALL PLANTING AREAS.
- 2. **GROUNDCOVER:** PROVIDE GROUNDCOVER AT INDICATED ON-CENTER SPACING THROUGHOUT ALL PLANTING AREAS. GROUNDCOVER MUST BE PROVIDED UP TO THE WATERING BASIN OF ALL TREES AND SHRUBS.
- 3. **TOPSOIL:** 6" OF IMPORT/NATIVE TOPSOIL TO BE PLACED IN ALL PLANTING AREAS.
- 4. **SOIL PREPARATION:** CULTIVATE TO LIMITS OF CLEAR AND GRUB AREAS.
- 5. **SWALES:** DO NOT PLACE MULCH WITHIN 4' OF DRAINAGE FLOW LINES, INCLUDING WITHIN SHRUB BEDS.
- 6. **PLANT LOCATIONS:** FINAL LOCATIONS OF PLANT MATERIALS TO BE APPROVED IN FIELD BY CITY MAINTENANCE STAFF.
- 7. **COMMERCIAL FERTILIZER** MUST BE SLOW OR CONTROLLED RELEASE.

ADOBE CREEK POC
PLANT LIST AND LEGEND
SCALE AS SHOWN

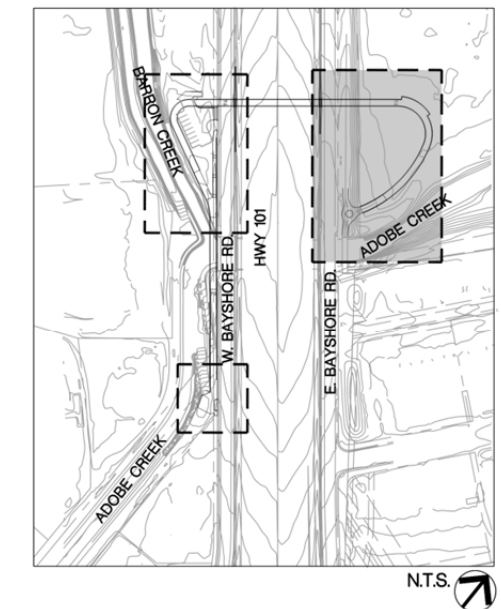
PL-1



SITE CONSTRUCTION LEGEND

-  CONCRETE PAVING
EXPANSION JOINT, TYP.
SCORE JOINT, TYP.
BAND, INTEGRAL COLOR TBD AND LIGHT SANDBLAST
-  TRASH RECEPTACLE, DUMOR MODEL 148-32SH-FTO WITH LID
-  RECYCLING RECEPTACLE, DUMOR MODEL 148-32RC-0254 SLATS WITH RECYCLING LOGO
-  DRINKING FOUNTAIN, ELKAY EZH2O W/ BOTTLE FILLING, FOUNTAIN AND PET FOUNTAIN
-  ALIGN
-  BIKE REPAIR STAND - DERO FIXIT

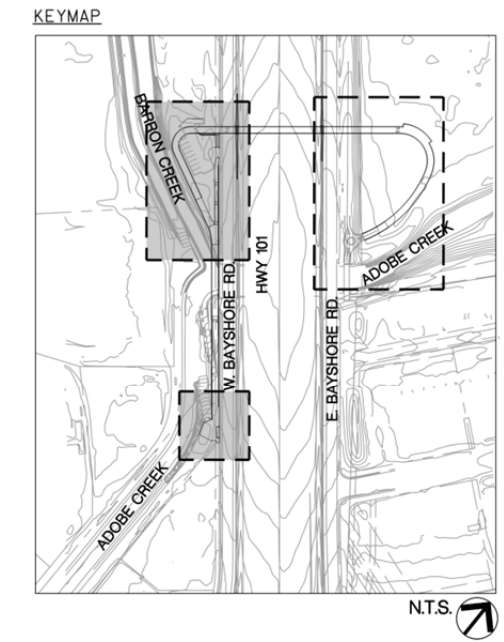
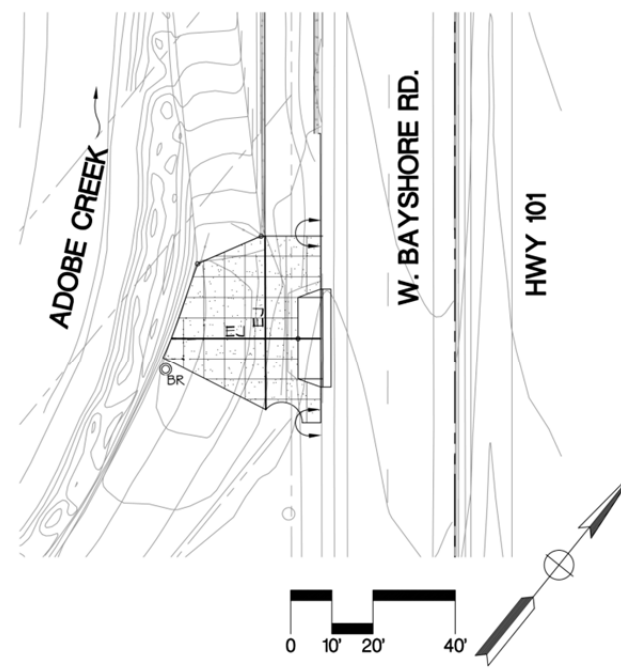
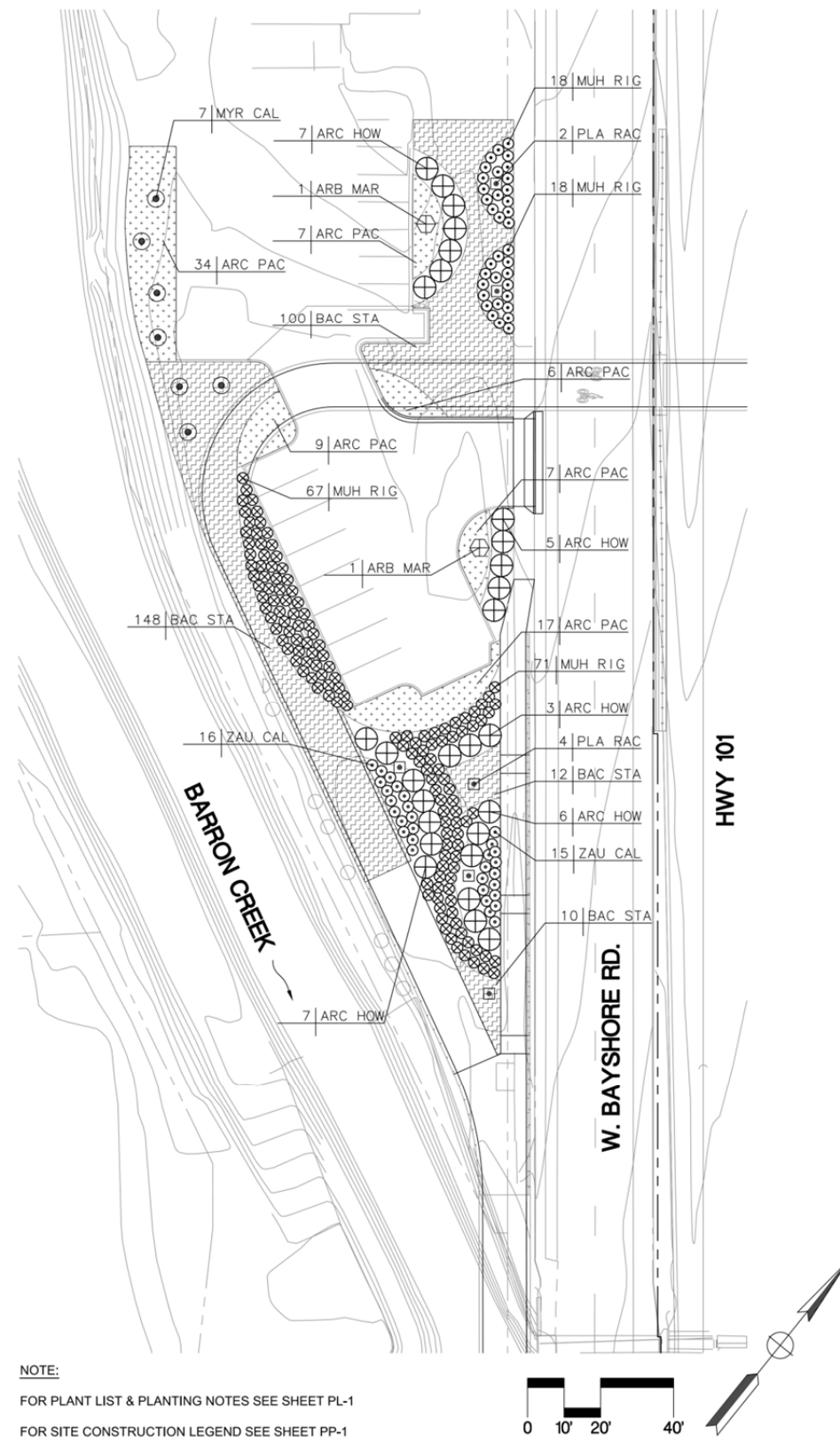
KEYMAP



ADOBE CREEK POC PLANTING PLAN

SCALE AS SHOWN

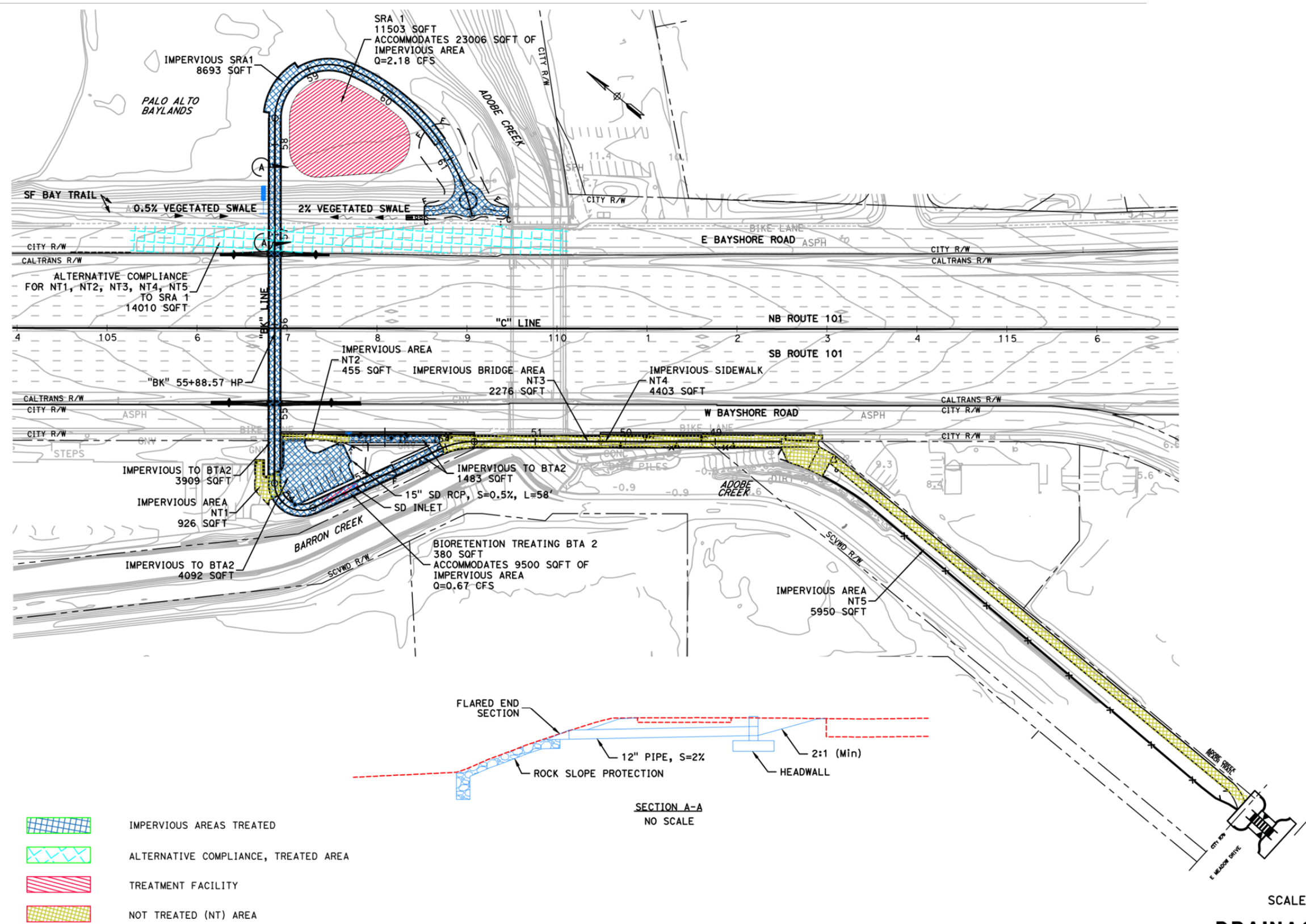
PP-1



**ADOBE CREEK POC
 PLANTING PLAN**
 SCALE AS SHOWN

PP-2

DRAINAGE PLAN



POLLUTION PREVENTION — IT'S PART OF THE PLAN

Construction projects are required to implement year-round stormwater BMPs, as they apply to your project.

Runoff from streets and other paved areas is a major source of pollution to San Francisco Bay. Construction activities can directly affect the health of the Bay unless contractors and crews plan ahead to keep construction dirt, debris, and other pollutants out of storm drains and local creeks. Following these guidelines will ensure your compliance with City of Palo Alto Ordinance requirements.



MATERIALS & WASTE MANAGEMENT

Non-Hazardous Materials

- Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or when they are not in use.
- Use (but don't overuse) reclaimed water for dust control.
- Ensure dust control water doesn't leave site or discharge to storm drains.

Hazardous Materials

- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- Follow manufacturer's application instructions for hazardous materials and do not use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. A plastic liner is recommended to prevent leaks. Never clean out a dumpster by hosing it down on the construction site.
- Place portable toilets away from storm drains. Make sure they are in good working order. Check frequently for leaks.
- Dispose of all wastes and demolition debris properly. Recycle materials and wastes that can be recycled, including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and cleared vegetation.
- Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.
- Keep site clear of litter (e.g. lunch items, cigarette butts).
- Prevent litter from uncovered loads by covering loads that are being transported to and from site.

Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.



EQUIPMENT MANAGEMENT & SPILL CONTROL

Maintenance and Parking

- Designate an area of the construction site, well away from streams or storm drain inlets and fitted with appropriate BMPs, for auto and equipment parking, and storage.
- Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment, and do not use diesel oil to lubricate equipment or parts onsite.

Spill Prevention and Control

- Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks. Use drip pans to catch leaks until repairs are made.
- Clean up leaks, drips and other spills immediately and dispose of cleanup materials properly.
- Use dry cleanup methods whenever possible (absorbent materials, cat litter and/or rags).
- Sweep up spilled dry materials immediately. Never attempt to "wash them away" with water, or bury them.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report any hazardous materials spills immediately! Call City of Palo Alto Communications, (650) 329-2413. If the spill poses a significant hazard to human health and safety, property or the environment, you must report it to the State Office of Emergency Services. (800) 852-7550 (24 hours).



EARTHMOVING

Grading and Earthwork

- Schedule grading and excavation work during dry weather.
- Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- Remove existing vegetation only when absolutely necessary, plant temporary vegetation for erosion control on slopes or where construction is not immediately planned.
- Prevent sediment from migrating offsite and protect storm drain inlets, drainage courses and streams by installing and maintaining appropriate BMPs (e.g., silt fences, gravel bags, fiber rolls, temporary swales, etc.).
- Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
 - Unusual soil conditions, discoloration, or odor.
 - Abandoned underground tanks.
 - Abandoned wells.
 - Buried barrels, debris, or trash.
- If the above conditions are observed, document any signs of potential contamination and clearly mark them so they are not disturbed by construction activities.

Landscaping

- Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- Stack bagged material on pallets and under cover.
- Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.



CONCRETE MANAGEMENT & DEWATERING

Concrete Management

- Store both dry and wet materials under cover, protected from rainfall and runoff and away from storm drains or waterways. Store materials off the ground, on pallets. Protect dry materials from wind.
- Wash down exposed aggregate concrete only when the wash water can (1) flow onto a dirt area; (2) drain onto a bermed surface from which it can be pumped and disposed of properly; or (3) block any storm drain inlets and vacuum washwater from the gutter. If possible, sweep first.
- Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and make sure wash water does not leach into the underlying soil. (See CASQA Construction BMP Handbook for properly designed concrete washouts.)

Dewatering

- Reuse water for dust control, irrigation or another on-site purpose to the greatest extent possible.
- Be sure to obtain a Permit for Construction in the Public Street from Public Works Engineering before discharging water to a street, gutter, or storm drain. Call the Regional Water Quality Control Plant (RWQCP) at (650) 329-2598 for an inspection prior to commencing discharge. Use filtration or diversion through a basin, tank, or sediment trap as required by the approved dewatering plan. Dewatering is not permitted from October to April.
- In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the City inspector to determine what testing to do and to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.



PAVING/ASPHALT WORK

Paving

- Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- Cover storm drain inlets and manholes when applying seal coat, slurry seal, fog seal, or similar materials.
- Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.

Sawcutting & Asphalt/Concrete Removal

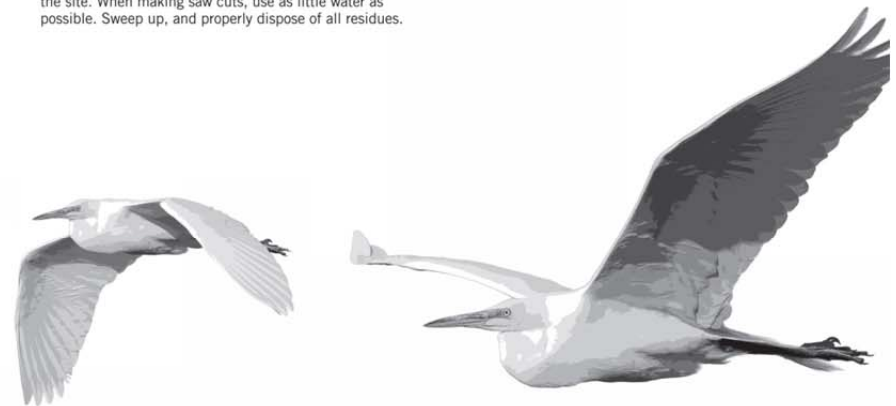
- Protect storm drain inlets during saw cutting.
- If saw cut slurry enters a catch basin, clean it up immediately.
- Shovel or vacuum saw cut slurry deposits and remove from the site. When making saw cuts, use as little water as possible. Sweep up, and properly dispose of all residues.



PAINTING & PAINT REMOVAL

Painting Cleanup and Removal

- Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- Sweep up or collect paint chips and dust from non-hazardous dry stripping and sand blasting into plastic drop cloths and dispose of as trash.
- Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state certified contractor.

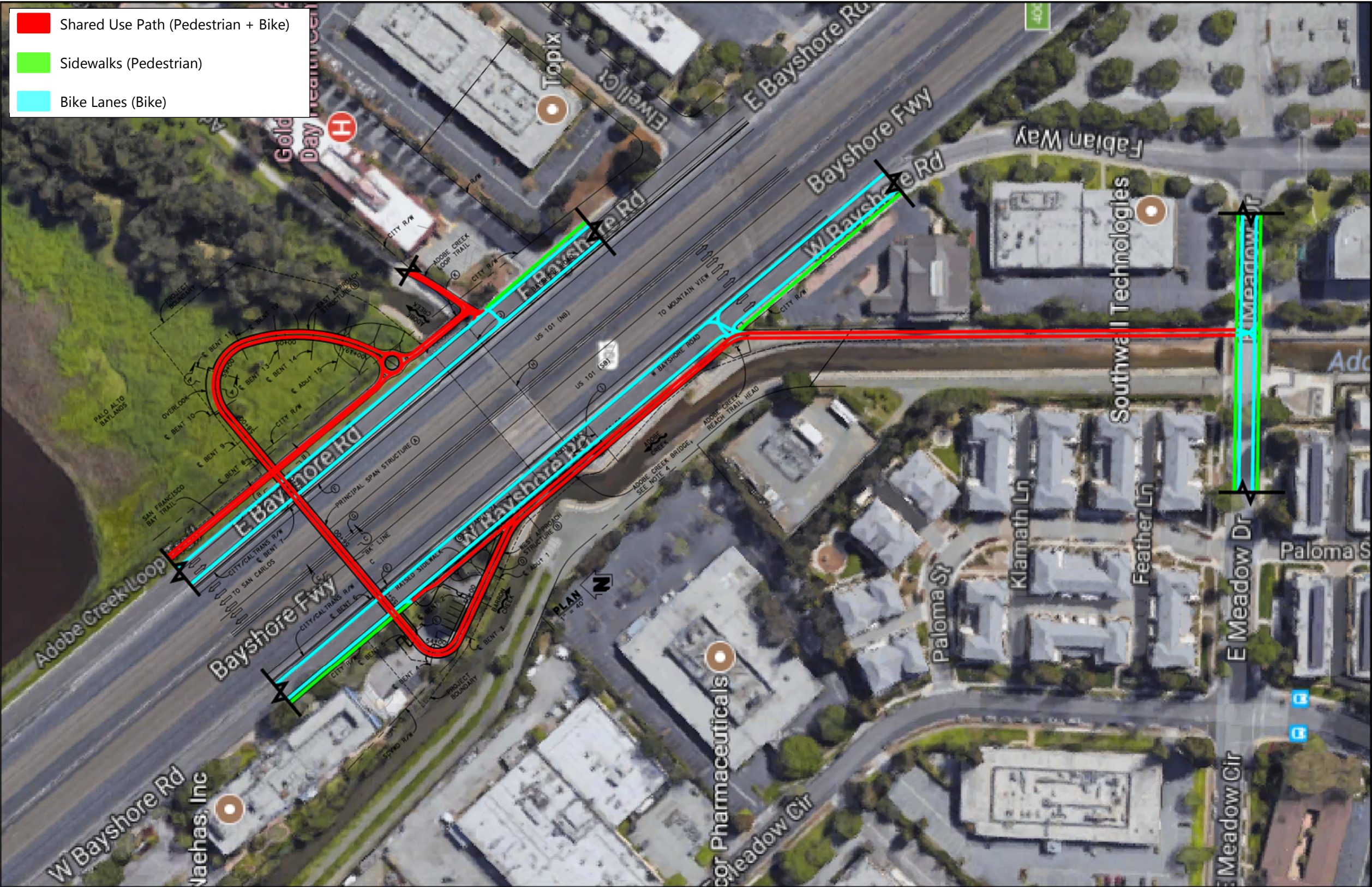


STORM DRAIN POLLUTERS MAY BE LIABLE FOR FINES OF UP TO \$10,000 PER DAY!

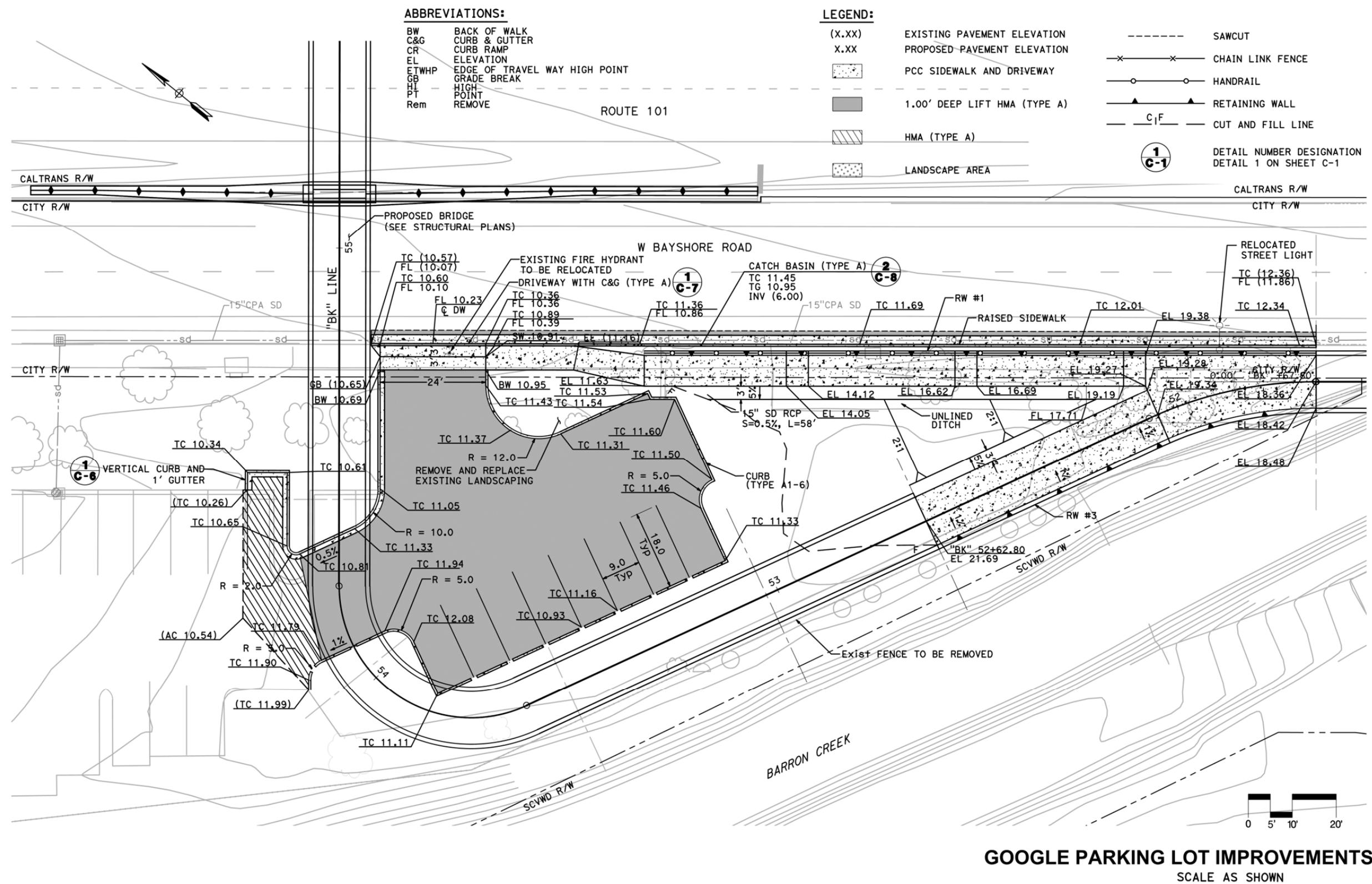
250 Hamilton Avenue
Palo Alto, CA 94301
650.329.2211
cityofpaloalto.org



CIRCULATION



GOOGLE PARKING LOT - IMPROVEMENTS



APPROVED FOR PAVEMENT ELEVATION WORK ONLY

GOOGLE PARKING LOT - DEMOLITION

NOTES:

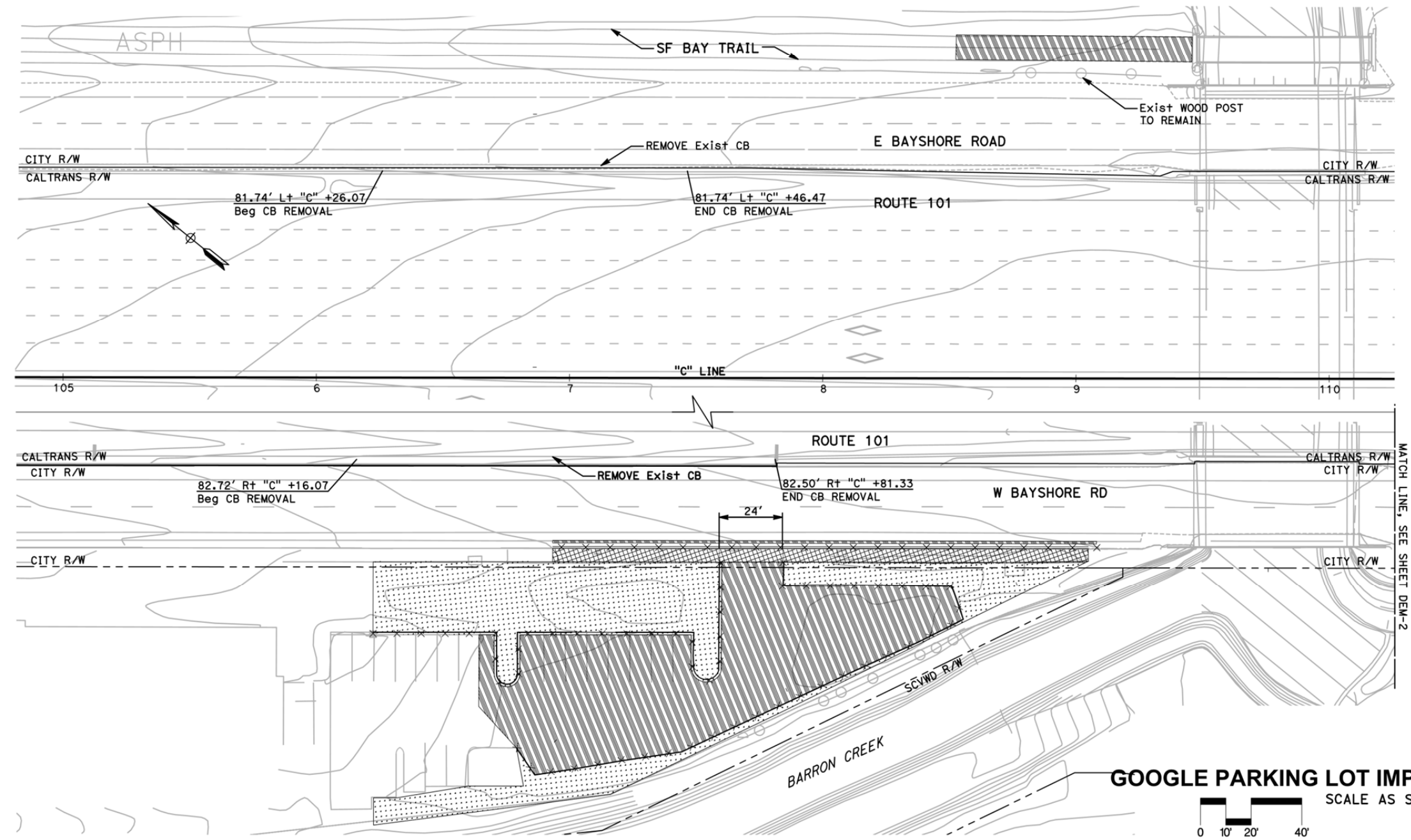
- 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- 2. FOR DEMOLITION LIMITS, SEE LAYOUT PLANS.
- 3. SAWCUT EXISTING PAVEMENT TO A NEAT LINE.
- 4. FOR TREE REMOVAL, SEE LANDSCAPE PLANS.
- 5. FOR EXISTING UTILITY INFORMATION, SEE UTILITY PLANS.
- 6. FOR REMOVAL/RELOCATION OF TRAFFIC SIGNS, SEE PAVEMENT DELINEATION PLANS.
- 7. FOR REMOVAL/RELOCATION OF ELECTROLIERS, SEE ELECTRICAL PLANS.

LEGEND:

- REMOVE EXISTING Conc C&G AND Conc CURB
- REMOVE EXISTING AC PAVEMENT
- REMOVE EXISTING Conc SIDEWALK, Conc Driveway,
- EXISTING LANDSCAPE AREA TO BE CLEARED AND GRUBBED

ABBREVIATIONS:

- C&G CURB & GUTTER
- CR CURB RAMP
- LG LIP OF GUTTER
- Pvmt PAVEMENT
- Rem REMOVE



STRUCTURE LIGHTING

Lighting design will be provided for the Overcrossing that contributes to the project goals of providing connectivity while addressing environmental concerns. The Overcrossing paths are to be illuminated during night hours to support pedestrian and bicycling activates, with lighting levels reflecting the transition from higher illuminated urban areas on the western side of Highway 101 to the lower lighting of the Baylands to the east. Photometric levels will conform to standards set by the Illuminating Engineering Society.

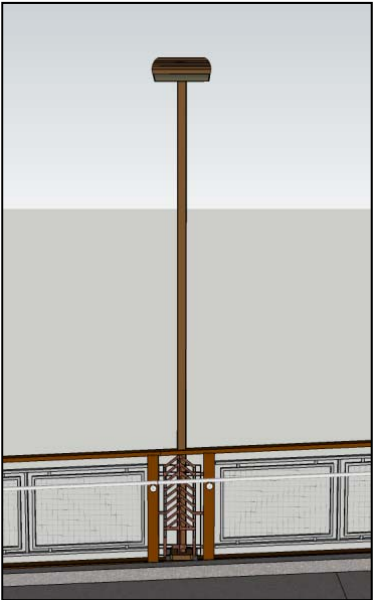
The Western Approach Structure will require higher lighting levels for better uniformity ratios to the surrounding environment. Pole mounted luminaires will provide uniform illumination along the pathway and at landscaping areas leading to the Overcrossing. At the Principal Span Structure, lighting will be integrated into the guardrail where possible to create a consistently illuminated pathway. Direct view of any light source is to be shielded from adjacent vehicular vantage points to reduce glare and distraction for drivers. Lighting at the Eastern Approach Structure and Eastern Approach Overlook will be integrated into the urban infrastructure components, such as railings and benches, in order to reduce visual interferences of the Baylands.

Careful consideration will be given to providing appropriate illumination at environmentally sensitive areas such as areas adjacent to Adobe and Barron Creek and the Baylands. Lighting on the Eastern Approach Structure will be minimal in order to reduce potential glare and distraction for wildlife with the Baylands. Step lights will be utilized, meeting photometric requirements, to provide low levels of functional lighting along the pathway. Warm color lighting techniques will be used to reduce lighting effects to migratory birds and other wildlife.

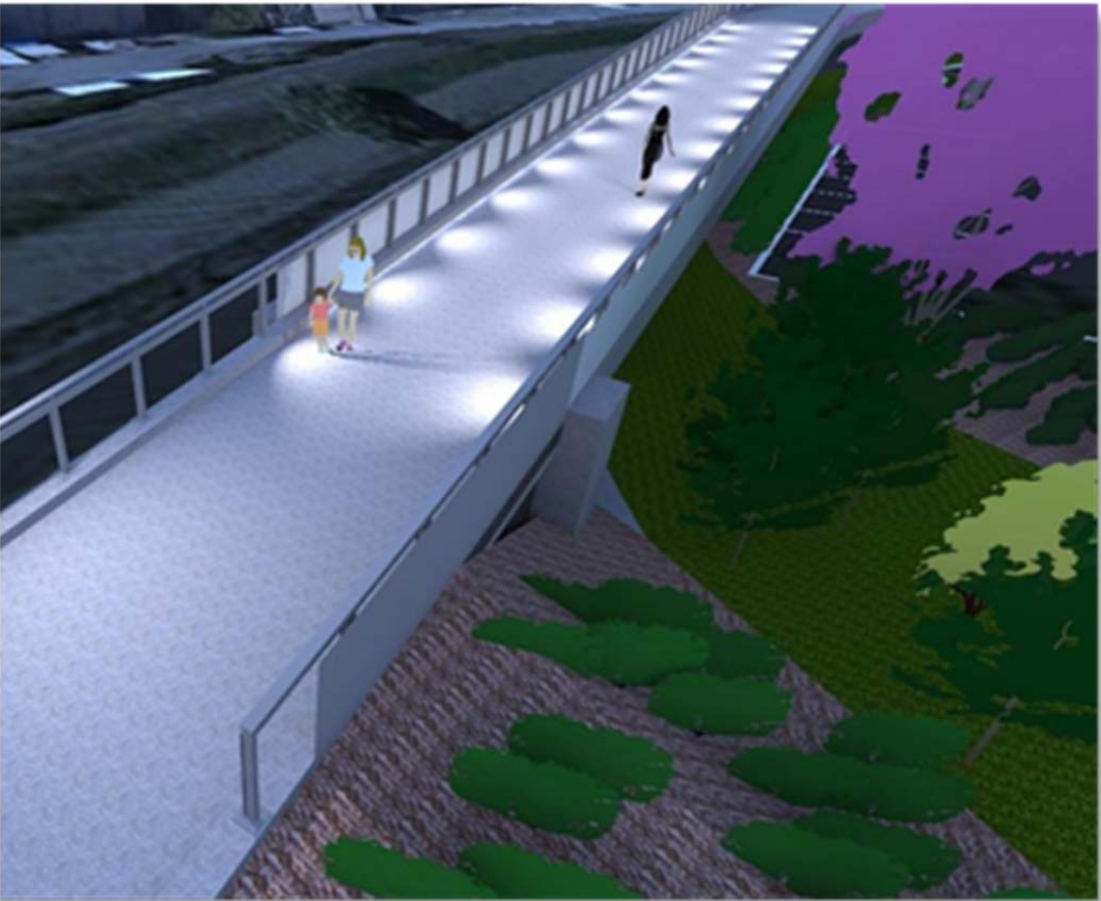
The lighting system will be designed to be mindful of the surrounding environment. Lighting poles with full-cutoff capability will be used in order to reduce light emitted above the 90° plane, limiting contribution to light pollution. Lighting controls will be utilized to reduce light output during hours with limited activity. Light levels dim down on a set time schedule synced with the astronomical clock. As people approach, sensors detect their presence, allowing the lighting to change in response to pedestrian and bicycle activity.



RAIL LIGHT



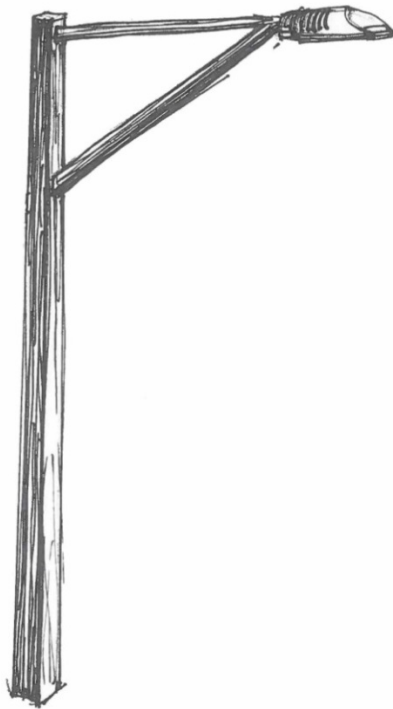
REVISED POLE LIGHT



AERIAL VIEW

note: refer to structural package for updated bridge trussing and detail. renderings for lighting intent only.

POLE STYLES



any relocated roadway poles can utilize a cantilever arm style that reflects the truss shape of the bridge overcrossing.



Pedestrian scale poles with adjustable led modules and field installable cutoff provides lighting at Western Approach of pathway.



Pedestrian scale poles will full cutoff provides lighting at Western Approach of pathway

WESTERN APPROACH

PALO ALTO PEDESTRIAN OVERCROSSING
SCHEMATIC LIGHTING DESIGN PACKAGE

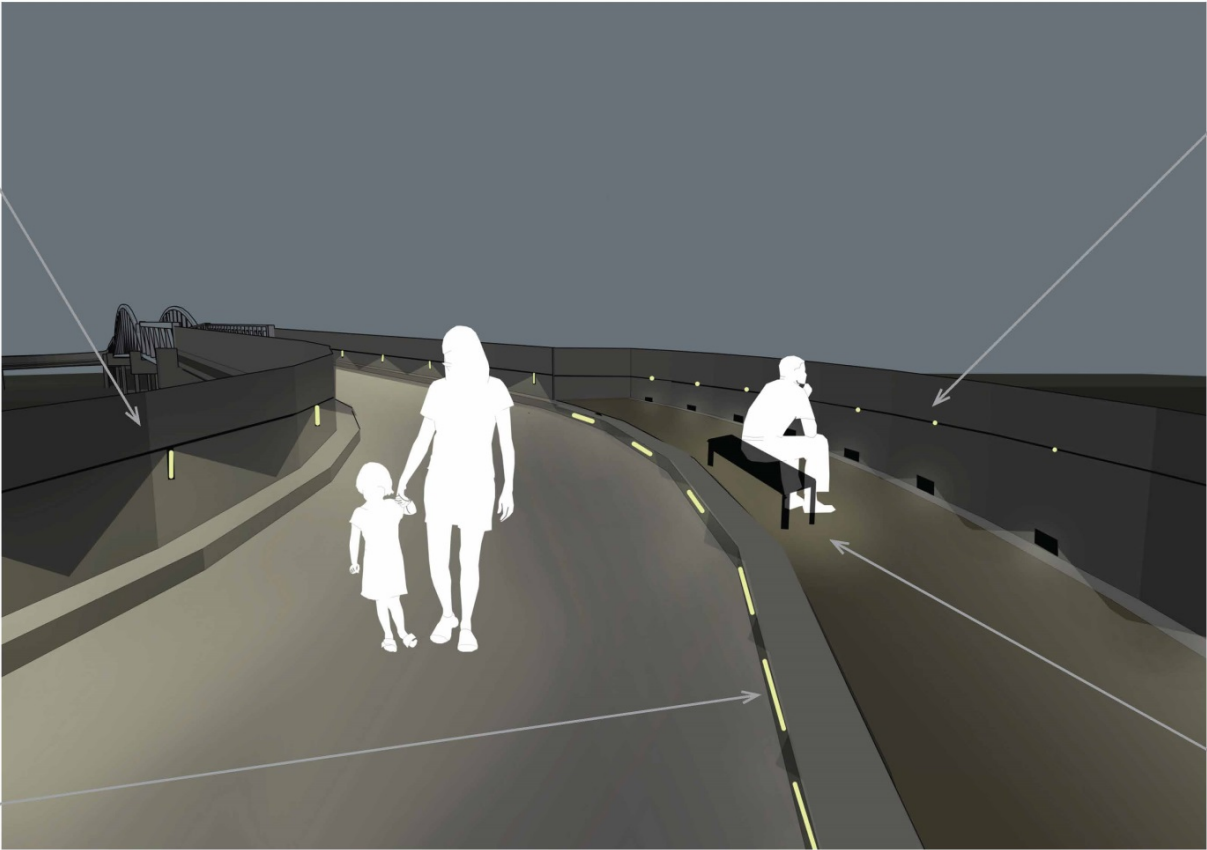


note: refer to structural package for updated bridge trussing and detail. renderings for lighting intent only.

Lighting integrated into handrail provides main illumination on pathway

Lighting elements Integrated into railing at overlook to reduce visual interference to marshlands

Additional fixtures recessed into curb face to fill in illumination at pathway and help to delineate the transition from pathway to overlook



Benches utilized for additional illumination

EASTERN APPROACH

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE





(L-P1) PEDESTRIAN POLE LIGHT
AT WESTERN APPROACH

- 12' pedestrian pole with field adjustable modules
- Full cutoff of light output above the 90° plane to reduce light pollution with no backlight to reduce light at river.
- Neighbor friendly optics (not shown in calculations) will be added to further reduce backlight.
- Marine grade rated for Wet Location.



(L-S1,L-S2) INTEGRATED RAIL LIGHT
THROUGHOUT PATHWAY

- L-S1: higher mounting height at principal span
- L-S2: lower mounting height at other locations
- Vertically mounted fixtures will be integrated at vertical posts on each side of pedestrian pathway approximately 8' on center.
- Marine grade rated for Wet Location.
- Fixtures must be field accessible, including remote ballasts or drivers.



(L-R01) RAIL MOUNTED STEPLIGHT
AT OVERLOOK

- Lighting will be integrated into railing at overlook, to be located approximately 6' on center.
- Marine grade rated for Wet Location.
- Fixtures must be field accessible, including remote ballasts or drivers.

LIGHTING FIXTURES

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE





(L-C01) STEP LIGHT IN CURB
AT OVERLOOK

- In-ground step lights will be used to define the edge of the curb at the eastern approach overlook.
- Marine grade rated for Wet Location.
- Fixtures must be field accessible, including remote ballasts or drivers.



(L-B01) LINEAR LED UNDER BENCH
AT OVERLOOK

- Linear LED tape will be mounted under benches to provide additional illumination at overlook walkway.
- Marine grade rated for Wet Location.
- Fixtures must be field accessible, including remote ballasts or drivers.
- Not included in Lighting layout and photometrics. sizing and location to be determined by bench size and location.

LIGHTING FIXTURES

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE



L-P1

(L-P1) PEDESTRIAN POLE LIGHT AT WESTERN APPROACH

- 12' pedestrian pole with field adjustable modules
- Full cutoff of light output above the 90° plane to reduce light pollution with no backlight to reduce light at river.
- Neighbor friendly optics (not shown in calculations) will be added to further reduce backlight.
- Marine grade rated for Wet Location.

LIGHTING FIXTURES

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE

KIM LIGHTING

ARX09 With Lens
ArcheType® X Site/Area
kl_arx09_lens_spec.pdf

JOB _____ TYPE _____
NOTES _____ APPROVALS _____

FEATURES

- Independently aimed LEAR™ modules
- 355° rotation and 70° tilt module adjustment
- Wide range of drive currents available
- Design software interface for user-defined Type X distribution creation
- Traditional NEMA distributions available
- IP66 sealed optical chamber

Certifications

UL US LISTED 3000K and warmer CCTs only

ICMA IK09 DLC

SPECIFICATIONS

Side: 7-7/16" (189 mm), 26-7/16" (672 mm), 5-1/4" (135 mm), 26-3/8" (669 mm)

Bottom: 20-3/8" (519 mm), 13-5/8" (346 mm)

Front: 14-3/8" (365 mm), 5-5/16" (142 mm)

Back: 4-1/4" (110 mm)

Top: 14-3/8" (365 mm), 6" (152 mm)

Max Weight = 28 lbs.

Side - EPA 0.842

Front - EPA 0.458

EPA 2.117

ORDERING CODE

ARX09

Configuration	EPA	Fixture	Distribution	Electrical Module	Fixture Finish	Arm Support	Photocell Options
1SA	1 Arm Side Mt.	0.6	1 Type I	Color Temperature	BL Black	US Upswept	A25-7 7-pin Photocell Receptacle
2SB	2 Arm Side Mt.	1.2	2 Type II	3K 3000K	DB Dark Bronze	ST Straight	A30 120V Button Photocell
2SL	2 Arm Side Mt.	1.2	3 Type III	4K 4000K	GT Graphite		A31 208V Button Photocell
3ST	3 Arm Side Mt.	1.8	4 Type IV	5K 5000K	LG Light Gray		A32 240V Button Photocell
3SV	3 Arm Side Mt.	1.4	5 Type V		PS Platinum Silver		A33 277V Button Photocell
4SC	4 Arm Side Mt.	1.8	L Left	50 500mA	TT Titanium		A34 480V Button Photocell
1W	Single Wall Mt.	0.6	R Right	55 550mA	WH White		A35 347V Button Photocell
HSF	Horizontal Slip Fitter	0.3	X Type X*	60 600mA	CC Custom Color ²		
				65 650mA			
				70 700mA			

*Available round pole only EPA is for fixture only

Fuse Options	Lens Option	NFO Option	Control Options	Mounting Options
SF 120, 277, 347 Line Volts	FGL Flat Glass Lens	NFO Neighbor Friendly Optic	Wireless Catalog Number	VSF Vertical Slipfitter Mount for 2" pipe tenon, (2-3/8" O.D.)
DF 208, 240, 480 Line Volts			WIR-RMI-IO 120 - 347V 1000 Foot Range WiScape RF mesh control system with optional dim, motion, photo, GPS location, alert, monitoring and metering capabilities.	SVSF Vertical Slipfitter Mount square for 2" pipe tenon, (2-3/8" O.D.)
			SWP ^{1,2,3} SiteSync Wireless Pre-Commission	Side Arm Mount
			SWPM ^{1,2,3} SiteSync Wireless Pre-Commission w/ Occupancy Sensor	3-4RD 3.3" to 4.2" O.D. round pole
			SWUSB ¹ SiteSync loaded on USB flash drive (Windows® operating system only)	4-6RD 4.5" to 6" O.D. round pole
			SWTAB ¹ SiteSync Windows® based Tablet	SQ Square Pole
			SWBRG ¹ SiteSync Wireless Bridge Node	
			¹ When ordering with SiteSync, one of the following interface options must be chosen and ordered separately. Each option contains the SiteSync License, GUI and Bridge Node.	
			SCL Fixture Mounted Occupancy Sensor up to 16'	
			SCH Fixture Mounted Occupancy Sensor 16' to 30'	
			SCL-R Round Pole Mounted Occupancy Sensor up to 16'	
			SCL-S Square Pole Mounted Occupancy Sensor up to 16'	
			SCH-R Round Pole Mounted Occupancy Sensor 16' to 30'	
			SCH-S Square Pole Mounted Occupancy Sensor 16' to 30'	

SiteSync Lighting Control is available from our most popular brands in a broad range of award-winning product families.

For Pole Spec Select: http://www.kimlighting.com/products/arms_and_poles/
For Control Spec Select: <http://tpsl.com/index.html>

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Kim Lighting reserves the right to change specifications without notice.

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P 626.968.5666 | F 626.369.2695 | www.kimlighting.com | Rev. May, 15, 2017

HUBBELL Lighting

1 | 1



L-P1



ARX09 With Lens
ArcheType® X Site/Area
kl_arx09_lens_spec.pdf

ARX LEAR™ 3X3 Site/Area												
Photometrics (3000K)												
Drive Current												
350 mA												
400 mA												
450 mA												
500 mA												
550 mA												
600 mA												
650 mA												
700 mA												
Type 1	5645	82 U0 G2	6309	82 U0 G2	6965	83 U0 G3	7341	83 U0 G3	7896	83 U0 G3	8447	83 U0 G3
Type 2	5344	81 U0 G1	5971	82 U0 G2	6592	82 U0 G2	6949	82 U0 G2	7404	82 U0 G2	7996	82 U0 G2
Type 3	5381	81 U0 G2	6013	81 U0 G2	6639	81 U0 G2	7262	81 U0 G2	7528	81 U0 G2	8052	82 U0 G2
Type 4	5147	81 U0 G1	5974	81 U0 G2	6596	81 U0 G2	6952	81 U0 G2	7478	81 U0 G2	8000	81 U0 G2
Type 5	5992	83 U0 G3	6697	83 U0 G3	7399	83 U0 G3	7792	83 U0 G3	8606	83 U0 G3	9305	83 U0 G3
Photometrics (4000K)												
Drive Current												
350 mA												
400 mA												
450 mA												
500 mA												
550 mA												
600 mA												
650 mA												
700 mA												
Type 1	6249	82 U0 G2	6963	83 U0 G3	7709	83 U0 G3	8414	83 U0 G3	9050	83 U0 G3	9682	83 U0 G3
Type 2	5975	82 U0 G2	6610	82 U0 G2	7297	82 U0 G2	7964	82 U0 G2	8566	82 U0 G2	9118	82 U0 G2
Type 3	5956	81 U0 G2	6656	81 U0 G2	7348	81 U0 G2	8020	81 U0 G2	8626	82 U0 G2	9228	82 U0 G2
Type 4	5917	81 U0 G2	6613	81 U0 G2	7300	81 U0 G2	7968	81 U0 G2	8579	81 U0 G2	9169	81 U0 G2
Type 5	6633	83 U0 G3	7412	83 U0 G3	8183	83 U0 G3	8930	83 U0 G3	9665	83 U0 G3	10375	83 U0 G3
Photometrics (5000K)												
Drive Current												
350 mA												
400 mA												
450 mA												
500 mA												
550 mA												
600 mA												
650 mA												
700 mA												
Type 1	6491	82 U0 G2	7254	83 U0 G3	8006	83 U0 G3	8732	83 U0 G3	9392	83 U0 G3	10047	83 U0 G3
Type 2	6144	82 U0 G2	6866	82 U0 G2	7580	82 U0 G2	8285	82 U0 G2	8890	82 U0 G2	9510	82 U0 G2
Type 3	6087	81 U0 G2	6814	81 U0 G2	7533	81 U0 G2	8233	81 U0 G2	8852	82 U0 G2	9577	82 U0 G2
Type 4	6047	81 U0 G2	6809	81 U0 G2	7504	81 U0 G2	8209	81 U0 G2	8894	81 U0 G2	9515	81 U0 G2
Type 5	6890	83 U0 G3	7700	83 U0 G3	8500	83 U0 G3	9288	83 U0 G3	9969	83 U0 G3	10665	83 U0 G3

Electrical Characteristics												
Current	System Watts	Line Voltage		Amps AC						Min. Power Factor	Max THD (%)	Dimming Range
		VAC	Hz	120	208	240	277	347	480			
350 mA	61	120-480	50/60	0.97	0.33	0.26	0.22	0.18	0.13	>0.9	20	10% to 100%
400 mA	70			0.98	0.33	0.29	0.25	0.20	0.15			
450 mA	78			0.95	0.37	0.32	0.28	0.22	0.16			
500 mA	86			0.71	0.41	0.36	0.31	0.25	0.18			
550 mA	94			0.78	0.45	0.39	0.34	0.27	0.20			
600 mA	101			0.84	0.49	0.42	0.37	0.29	0.21			
650 mA	110			0.91	0.53	0.46	0.40	0.32	0.23			
700 mA	118			0.99	0.57	0.49	0.43	0.34	0.25			

TM-21 LIFETIME CALCULATION						LED COLOR					
Optical System	Ordering Code	Ambient Environment °C	Projected Lumen Maintenance				Reported L70	Spectroradiometric			
			L6	L25	TM-21 60	L90		3K	4K	5K	
LEAR™	ARX09	15°	98	97	95	93	>600hrs	3000K	4000K	5000K	
		25°	95	95	92	89		CRI Minimum	≥72	≥72	≥72
		40°	95	95	92	89		S/P Ratio	1.03	1.06	1.28

Kim Lighting reserves the right to change specifications without notice.

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P 626.968.5666 | F 626.369.2695 | www.kimlighting.com | Rev. May. 15, 2017



| 2 |



ARX09 With Lens
ArcheType® X Site/Area
kl_arx09_lens_spec.pdf

SPECIFICATIONS

Housing:

- Low copper aluminum alloy die-casting is designed as one-piece and has external cooling ribs.
- Solid, cast aluminum, wall creates a thermal barrier between the optical and electrical compartments.
- A molded silicone gasket throughout insures the sealing between the two compartments and provides ingress protection.
- Housing is designed with integral LED module "turrets" utilized for both thermal transfer and for securing the location of each LEAR™ Optical Module. The turrets are spaced in rows of 3 X 3 and are designed to optimize photometric performance for standard and Type X user-defined distributions.
- IP66 certified to protect the optical chamber from dust and water ingress.
- IK09 rated enclosure protects electrical equipment against external mechanical impacts.

Lens Frame:

- One-piece low copper aluminum alloy die-cast is secured to housing with two toolless latches.

Neighbor Friendly Optic

- Optional integrated Neighbor Friendly Optic on each LED module to completely control unwanted backlight. Most effective with Type III and IV distributions.

Lens

- One-piece flat glass lens slips into reveal. Extra silicone gasketing is provided to retain a clear optical compartment. CAUTION: Use only when vandalism is anticipated to be high.

Type X LEAR™ Optical Module:

- Turret alignment and thermal transfer design allows for freedom of adjustability and precise aiming of the LEAR LED array.
- Optimized standard distribution or user-defined beam patterns.
- 3000K, 4000K, 5000K standard CCT. Amber and other custom color temperatures available.
- Factory adjusted distributions created from user-defined IES files.
- Toolless 355° rotation adjustment and 70° tilt adjustment with tamper resistant fastener.
- Type X LEAR modules are IP66 rated and utilize six high output LEDs positioned beneath a precise, high purity molded acrylic prism.

LED COLOR			
	Spectroradiometric		
	3K	4K	5K
Designation	3000K	4000K	5000K
CRI Minimum	≥72	≥72	≥72
S/P Ratio	1.33	1.66	1.78

Consult factory for Amber, Turtle Friendly, Gulf Coast and Observatory applications.

Kim Lighting reserves the right to change specifications without notice.

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| 3 |

Electrical Components:

- Standard programmable driver allows for programmable drive current settings ranging from 350mA to 700mA.
- Electrical components are strategically located in the driver gear compartment with a molded silicon grommet seal to provide separation from the optical chamber.
- Maximum lightning surge current 20KA with thermally protected varistor technology. Surge suppression is series circuited preventing total fixture failure.
- Open circuit fault will turn off the luminaire in order to protect the sensitive electronics and acts as a signal for maintenance.
- Programmable Driver is rated for -40°C starting.
- "Thermal Shield", primary side, thermister provides protection for the sustainable life of LEAR modules and electronic components.

Dimming:

- Dimming range from 10% to 100% through the use of the standard 0-10V interface on the programmable driver.
- Modular wiring harness in the service area provides user access to the dimming circuitry.
- Dimming circuitry compatible with 0-10V, user-defined, control devices.
- Optional factory programmed dimming profile.



Support Arm:

- Die-cast, low copper aluminum alloy, with splice access cover.
- Die-cast pole adaptor and an internal reinforcing plate are provided with a wire strain relief.
- The arm adaptor is square or circular cut for specified pole size and shape.
- For field wire connections, a terminal block is mounted in the arm cavity and accessible behind the splice access cover. The block accepts #14 to #8 wire sizes and is factory prewired to the electrical module's quick-disconnect plug inside the electrical compartment.

Optional Slip-Fitter:

- Internally accessible slip-fitter attaches to a 1-1/4" to 2-3/8" tenon and allows hands-free wiring and maintenance.

Optional Wall Mount:

- Optional, cast aluminum mounting plate attaches to a wall over a junction box and the speed mount is bolted to the cover plate. To complete the wiring, the luminaire assembly slides over the mounting plate.

Fusing:

- SF for 120, 277, and 347 Line volts
- DF for 208, 240, and 480 Line volts

- High temperature fuse holders factory installed inside the fixture housing. Fuse is included.

Finish:

- Fade and abrasion resistant, electrostatically applied, thermally cured, triglycidic isocyanurate (TGIC) polyester powdercoat.
- Standard colors include (BL) Black, (DB) Dark Bronze, (GT) Graphite, (PS) Platinum Silver, (LG) Light Gray, (TT) Titanium, (WH) White, and (CC) Custom Color (Include RAL#).

Certifications and Listings:

- UL 1598 Standard for Luminaires.
- UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products.
- CSA C22.2#250.0 Luminaires.
- ANSI C136.31-2010 4G Vibration tested and compliant.
- RoHS compliant.
- IP66 certified.
- IEC 66262 Mechanical Impact Code IK09.
- IDA approved, 3000K and warmer CCTs only.

CAUTION:

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

WARRANTY:

- For full warranty see: <http://www.hubbellighting.com/resources/warranty>

LIGHTING FIXTURES

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE



L-S1, LS2

(L-S1,L-S2) INTEGRATED RAIL LIGHT THROUGHOUT PATHWAY

- L-S1: higher mounting height at principal span
- L-S2: lower mounting height at other locations
- Vertically mounted fixtures will be integrated at vertical posts on each side of pedestrian pathway approximately 8' on center.
- Marine grade rated for Wet Location.
- Fixtures must be field accessible, including remote ballasts or drivers.

LIGHTING FIXTURES

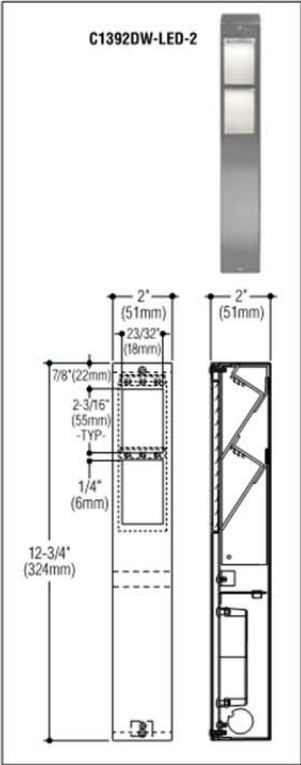
PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE

COLE LIGHTING SUBMITTAL

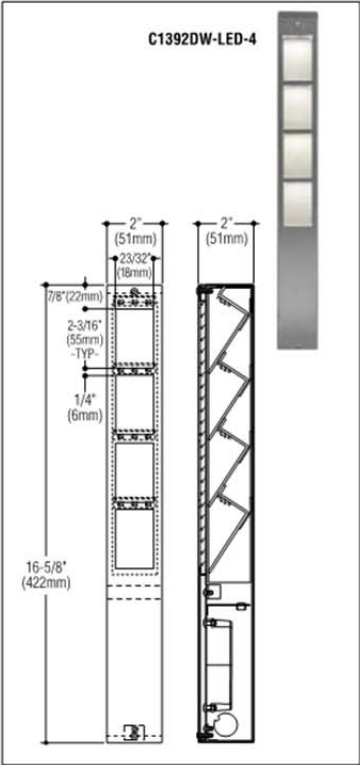
JOB NAME _____ Type _____

CATALOG NUMBER _____ Steplites

C1392DW-LED-2



C1392DW-LED-4



Catalog Number Lamp		Housing W & D	Housing Length	*OPTIONAL 1/2" KO'S AT BOTTOM
LED 1.5W, (126 lm @ 3000°K)	<input type="checkbox"/> C1392DW-LED-2	2" x 2"	12 3/4"	<input type="checkbox"/> 1
LED 3.6W, (215 lm @ 3000°K)	<input type="checkbox"/> C1392DW-LED-2-HO	2" x 2"	12 3/4"	<input type="checkbox"/> 1
LED 3.0W, (252 lm @ 3000°K)	<input type="checkbox"/> C1392DW-LED-4	2" x 2"	16 5/8"	<input type="checkbox"/> 1
LED 7.2W, (430 lm @ 3000°K)	<input type="checkbox"/> C1392DW-LED-4-HO	2" x 2"	16 5/8"	<input type="checkbox"/> 1

* Optional 1/2" KO's at bottom assumes standard locknuts and side by side spacing

Options

Alternate housing dimensions:
Add suffix ☐ -SP/ _____ (dimensions).

Alternate shielding: Contact factory for options.
Add suffix ☐ -OS.

Painted finish: Add suffix ☐ -CC/ _____ (color).

Frosted glass diffuser: Tempered. Add suffix ☐ -FG

LED color: 4000°. Add suffix ☐ -4K

Tamperproof screws: Socket head faceplate screws. Add suffix ☐ -TP

Bottom knockout: 1/2" knockout at bottom in lieu of standard side knockouts (3" wide housing suitable for two knockouts). Add suffix ☐ -BKO

C1392D SERIES Railite

SPECIFICATIONS

Construction

- Housing is constructed from 20 gauge stainless steel or .050" aluminum
- Satin finish with passivation on exterior stainless steel surfaces or powder coat on aluminum surfaces
- Diffuser is 1/8" clear tempered glass
- Tamperproof screws provided
- cETLus listed for use in wet locations, in any wall construction
- Intended for mounting between pairs of vertical support posts via field-drilled mounting holes. Other mounting methods are available on request.

Electrical

- Fixture is wired for high performance LEDs
- Driver is universal voltage
- Provided with 1/2" knockout on either side

Mounting

Intended for mounting between pairs of vertical support posts via field-drilled mounting holes. Other mounting methods are available on request.

How to Specify

Select catalog number and add suffix(s) for desired options.

COLE Lighting

C.W. Cole & Company, Inc.
2560 N. Rosemead Boulevard
South El Monte, CA 91733-1593
Tel. (626) 443-2473
Fax (626) 443-9253
info@colelighting.com
www.colelighting.com

615

HIGHWAY 101 MULTI-USE OVERCROSSING AND ADOBE CREEK REACH TRAIL | August 30, 2017

LIGHTING 8.9

L-R01

(L-R01) RAIL MOUNTED STEPLIGHT AT OVERLOOK

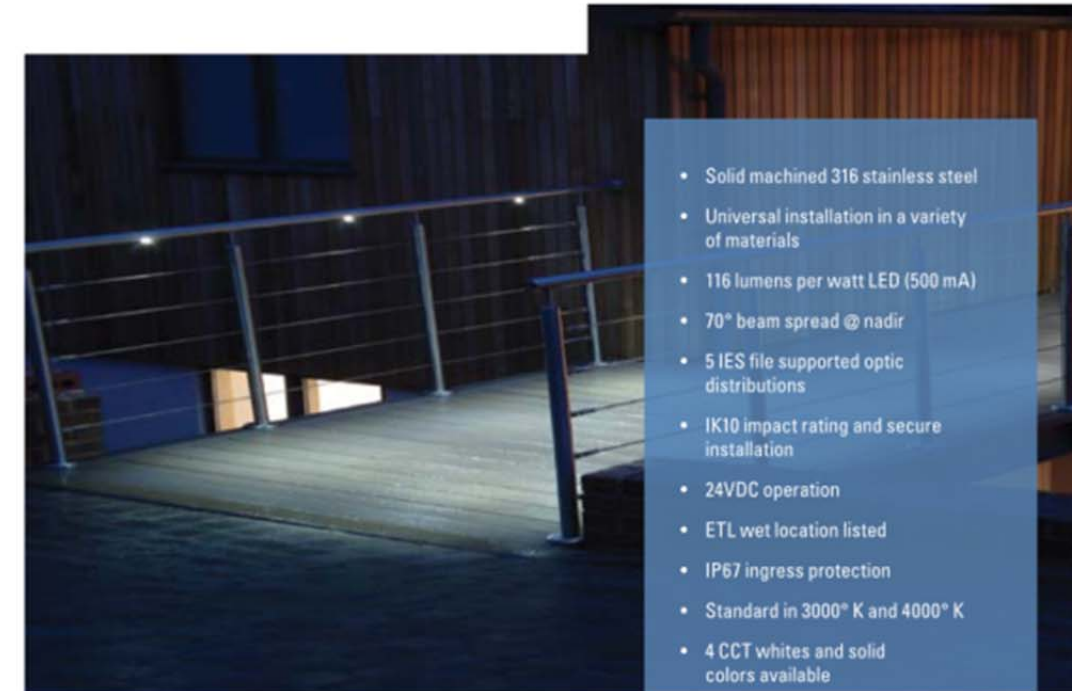
- Lighting will be integrated into railing at overlook, to be located approximately 6' on center.
- Marine grade rated for Wet Location.
- Fixtures must be field accessible, including remote ballasts or drivers.

LIGHTING FIXTURES

LUMENPOD®

ANOTHER LUMENRAIL® COMPONENT FOR LIFE SAFETY AND LIGHT.

The next generation point source from Wagner Architectural Systems has performance that far exceeds the expectations of its discreet $\frac{1}{8}$ " diameter. The mechanically threaded luminaire is designed for pathway illumination with mounting options for hand rail, guardrail, decks, and shelter or entry structures. Asymmetric performance can be precisely achieved, and superior harsh environment protection and vandal resistance are combined with a simple installation. The Lumenpod provides a low-profile architectural solution for new or retrofit applications and egress compliance opportunities.



- Solid machined 316 stainless steel
- Universal installation in a variety of materials
- 116 lumens per watt LED (500 mA)
- 70° beam spread @ nadir
- 5 IES file supported optic distributions
- IK10 impact rating and secure installation
- 24VDC operation
- ETL wet location listed
- IP67 ingress protection
- Standard in 3000° K and 4000° K
- 4 CCT whites and solid colors available
- Wildlife amber

WAGNER
ARCHITECTURAL SYSTEMS

Specifications may change without prior notice, verify data at time of order, all rights reserved

LU-LF SUBM R2 // WAGNERARCHITECTURAL.COM

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE



L-R01

LUMENPOD®

PROJECT NAME: _____

REP AGENCY: _____

APPROX. QUANTITY: _____



SCAN QR CODE
for technical information, downloads, instructions,
and system configuration guides



LUMENPOD®
ANOTHER
LUMENRAIL®
COMPONENT
FOR LIFE SAFETY
AND LIGHT.

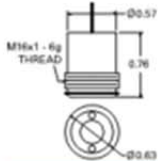
PART NUMBER BUILDER

LULF40K703	LULF			
EXAMPLE	FIXTURE TYPE	COLOR TEMP	OPTIC	DRIVE CURRENT
<small>* Indicates stock, other options may require additional lead-time.</small>	LULF - Lumenpod	27K - 2700°K 30K - 3000°K 40K - 4000°K 50K - 5000°K	BLU - Blue GRN - Green RED - Red AMB - Wildlife Amber	16 - 16" beam 23 - 23" beam 46 - 46" beam 70 - 70" beam 94 - 94" beam
				5 - 500 mA 3 - 350 mA <small>Extended life 100,000HR version requires 200 mA</small>

ELECTRICAL SPECIFICATIONS

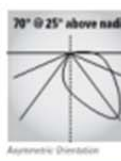
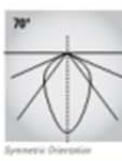
 <small>All electrical connections to be made by a qualified electrician in accordance with all national, state and local electrical codes.</small>	24VDC INPUT VOLTAGE	ETL LISTED WET, IK, IP67, CE CERTIFICATIONS	0-10V INPUT DIMMING	-40°F TO +120°F OPERATING TEMP
	CLASS 2 REQUIRED DRIVER	5 YEARS WARRANTY	UP TO 116 LM/W LED EFFICIENCY	80+ CRI

CONSTRUCTION



The Lumenpod's threaded stainless steel body dissipates heat directly into the mounting material. A machined shoulder positions it nearly flush with any diameter hand rail, as well as flat or square stock.

PHOTOMETRICS



Asymmetric performance can be fine tuned on fabricated systems by rotating the fixture around the rail diameter. A 25° angle provides superb illumination results in most applications. IES reports to view or download are available by scanning the QR code or visiting our website.

LUMENGEAR™ - LED DRIVER & NEMA ENCLOSURE OPTIONS		
<small>Wagner offers multiple ETL listed options for both 24VDC power supplies and NEMA enclosures. Quantities and types will be configured based on your specifications and design. Additional specification options are available by request. Not all options apply to all products, please verify compatibility with the factory.</small>		
CLASS II DRIVERS: <ul style="list-style-type: none">* STD 100W Non Dim0-10VMultiple Wattages	NEMA ENCLOSURES: <ul style="list-style-type: none">4X, 6LUMENPOST™Integral 100W, 0-10V DIM	

Specifications may change without prior notice, verify data at time of order, all rights reserved

WAGNER 888.243.6914 // SYSTEMS@MAILWAGNER.COM
10600 West Brown Deer Road // Milwaukee, WI 53224, USA

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WAGNERARCHITECTURAL.COM
LULF SUBM R2

LIGHTING FIXTURES

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE



L-C01

(L-C01) STEP LIGHT IN CURB AT OVERLOOK

- In-ground step lights will be used to define the edge of the curb at the eastern approach overlook.
- Marine grade rated for Wet Location.
- Fixtures must be field accessible, including remote ballasts or drivers.

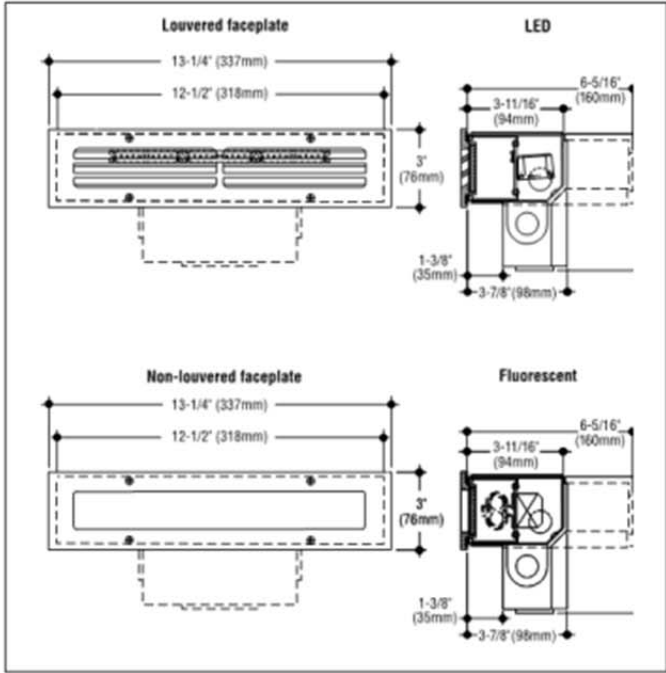
LIGHTING FIXTURES

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE

COLE LIGHTING SUBMITTAL

JOB NAME _____ Type _____

CATALOG NUMBER _____ Steplites



2158 SERIES

SPECIFICATIONS

Construction

- Fixture housing is constructed from die-formed 16 gauge electro-galvanized steel finished with a white polyester coating
- Faceplate is cast aluminum with metallic aluminum polyester coating or 3/16" stainless steel with brushed finish
- Faceplate is retained by stainless steel screws
- Diffuser is frosted tempered glass set in silicone sealant
- Reflector is constructed of white die-formed aluminum
- Optional junction box is cast aluminum with polyester coating
- cETLus listed, suitable for wet locations in any wall construction.

Electrical

- Fixture is wired with high performance LEDs or compact fluorescent lamps. Drivers and electronic ballast are universal voltage
- Housing provided with 1/2" conduit knockout on each side, suitable for 4 wire thru-wiring, 2 in 2 out
- Optional junction box allows 8 wire thru-wiring, 4 in 4 out. Provided with two 1/2" tapped conduit entrances in the bottom and one 1/2" tapped conduit entrance in each side.

Mounting

Housing has flange with holes for mounting.

Catalog Numbers Lamps	Faceplate			
	Alum. Louver	Alum. Non-Louver	S.S. Louver	S.S. Non-Louver
LED 4.5W, (377 lm @ 3000°K)	<input type="checkbox"/> L2158W	<input type="checkbox"/> L2158GW	<input type="checkbox"/> L2158W-N	<input type="checkbox"/> L2158GW-N
LED 10.8W, (645 lm @ 3000°K)	<input type="checkbox"/> L2158W-HO	<input type="checkbox"/> L2158GW-HO	<input type="checkbox"/> L2158W-N-HO	<input type="checkbox"/> L2158GW-N-HO
One 9W, (CFT9W/2G7) compact fluorescent	<input type="checkbox"/> F2158W-9	<input type="checkbox"/> F2158GW-9	<input type="checkbox"/> F2158W-N-9	<input type="checkbox"/> F2158GW-N-9
One 13W, (CFT13W/2GX7) compact fluorescent	<input type="checkbox"/> F2158W-13	<input type="checkbox"/> F2158GW-13	<input type="checkbox"/> F2158W-N-13	<input type="checkbox"/> F2158GW-N-13
One 18W, (FT18W/2G11) compact fluorescent	<input type="checkbox"/> F2158W-18	<input type="checkbox"/> F2158GW-18	<input type="checkbox"/> F2158W-N-18	<input type="checkbox"/> F2158GW-N-18

Options

Junction box: Bottom or back mounted as required for feed-thru. Add suffix ☐ -J.

Tamperproof screws: Socket head faceplate screws. Add suffix ☐ -TP.

Dimming: Universal voltage 0-10V driver. Add suffix ☐ -DIM.

LED colors: 4000°K (438 lm), -HO (747 lm). Add suffix ☐ -4K.

Amber: Add suffix ☐ -AMB.

Blue: Add suffix ☐ -BLU.

Voltage: 277 ballast. Add suffix ☐ -277.

Alternate faceplate color: Black or white. Add suffix ☐ -BLK or ☐ -WHT.

Bronze faceplate: Satin finished, clear coated faceplate. Add suffix ☐ -B.

Opal glass diffuser: Tempered. Add suffix ☐ -OPL.

How to Specify

1. Select catalog number with desired features.
2. Add suffixes for options required to meet job conditions.

COLE Lighting

C.W. Cole & Company, Inc.
2560 N. Rosemead Boulevard
South El Monte, CA 91733-1593

Tel. (626) 443-2473
Fax (626) 443-9253
info@colelighting.com
www.colelighting.com



L-B01

(L-B01) LINEAR LED UNDER BENCH AT OVERLOOK

- Linear LED tape will be mounted under benches to provide additional illumination at overlook walkway.
- Marine grade rated for Wet Location.
- Fixtures must be field accessible, including remote ballasts or drivers.
- Not included in Lighting layout and photometrics. sizing and location to be determined by bench size and location.

LIGHTING FIXTURES

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE

WP WA 3528 Single Row LED Strip Light 120/m 10mm wide 5m Reel

Environmental
Lights.com™

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HOME / LED STRIP LIGHTS / WATERPROOF WHITE ADJUSTABLE LED STRIP LIGHTS / WATERPROOF WHITE ADJUSTABLE LED STRIP LIGHTING / WATERPROOF WHITE ADJUSTABLE 3528 SINGLE ROW LED STRIP LIGHT, 120/M, 10MM WIDE, BY THE 5M REEL



PHOTOS VIDEOS



Waterproof White Adjustable 3528 Single Row LED Strip Light, 120/m, 10mm wide, by the 5m Reel

Product No.: wp-ct3528-120-10-reel

AVAILABILITY: IN STOCK

SHIPS IN: 1 day, typically

SPECIFICATIONS (READ MORE)

Light Color	White Adjustable
Color Temperature	2,400-6,500°K
Light Color Detail	White Adjustable
Color Rendering Index	90+
Type	Single Row

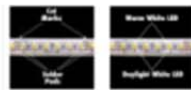
Reels	Price Per Reel
1 - 4	\$229.50

https://www.environmentallights.com/15045-wp-ct3528-120-10-reel.html[7/19/2017 3:01:08 PM]



L-B01

WP WA 3528 Single Row LED Strip Light 120/m 10mm wide 5m Reel



5 - 14	\$218.50
15+	\$211.50

QTY:

Required: Requires a color tuning (2-channel) dimmer and 24 volt DC driver.



PRODUCT FEATURES	
APPLICATIONS	
SPECIFICATIONS	
DOCUMENTATION	
PHOTOS & VIDEOS	
REVIEWS	
ACCESSORIES	
Application	Waterproof
Average Lifetime	50,000 hours
Beam Angle	120°
Brightness	635/753 lumens/meter
Efficacy	82.6 lumens/watt
Brightness 2	2464/2893 mW/meter
Efficacy 2	318.9 mWatt/watt
Color Rendering Index	90+
Color Temperature	2,400-6,500°K
Height (English)	0.16 in
Height (Metric)	4 mm
Input Current	3500 mA
Input Voltage	24 DC

<https://www.environmentallights.com/15045-wp-ct3528-120-10-reel.html>[7/19/2017 3:01:08 PM]

WP WA 3528 Single Row LED Strip Light 120/m 10mm wide 5m Reel

LED Node Size	3528
LED Spacing (English)	0.33 in
LED Spacing (Metric)	8.3 mm
Length (English)	16.4 ft
Length (Metric)	5 m
Light Color	White Adjustable
Light Color Detail	White Adjustable
Manufacturer	EnvironmentalLights
Min. Cutting Increment (English)	1.97 in
Min. Cutting Increment (Metric)	50 mm
Number of LEDs	120/meter
Power (Watts)	84
Power (Watts/ft)	5.00
Power (Watts/m)	16.80
Rating	UL, RoHS
Strip Width	12.5 mm
Type	Single Row
Warranty	3 years limited
Width (English)	0.49 in
Width (Metric)	12.5 mm

SIGN UP TODAY

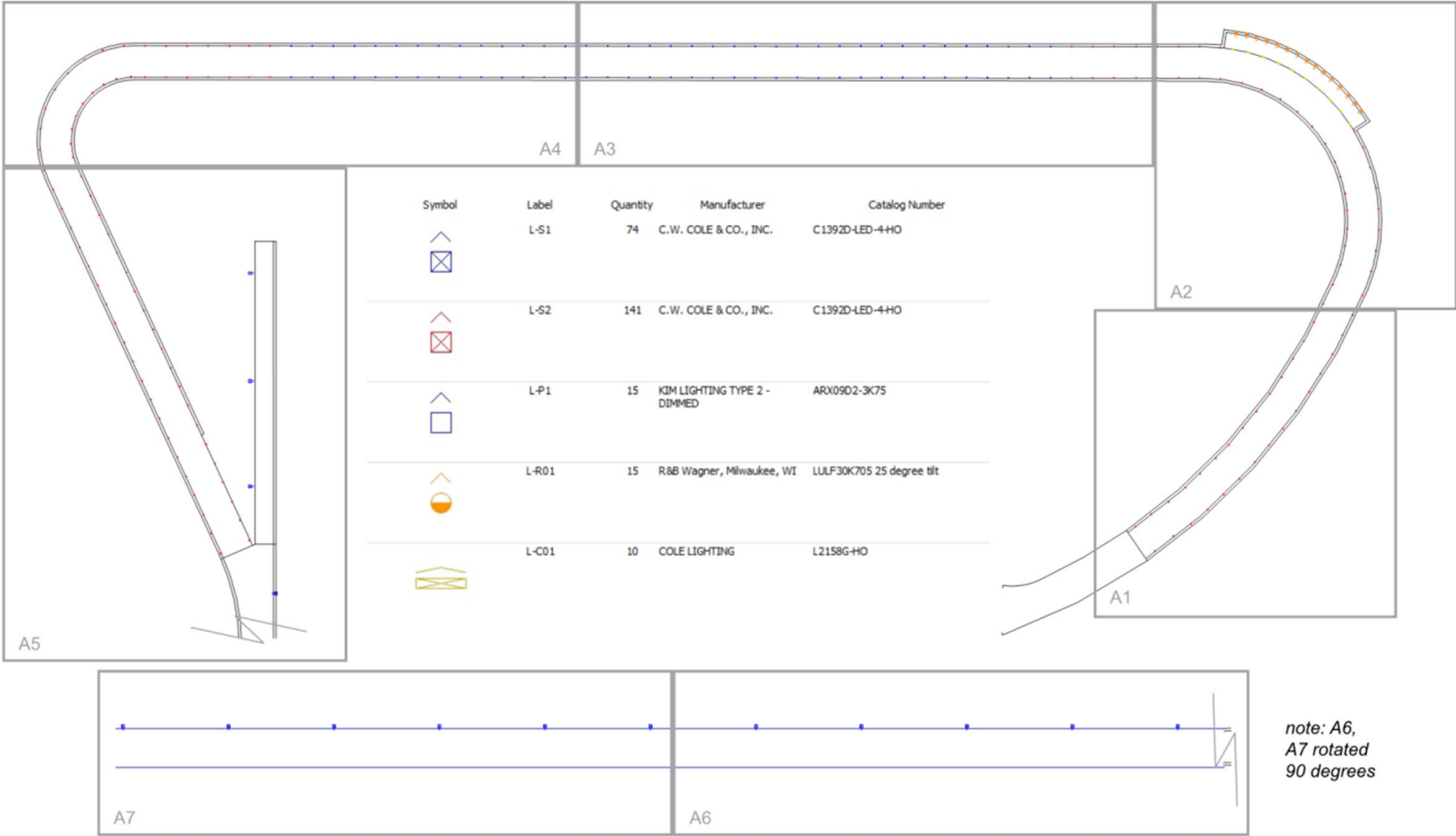
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<https://www.environmentallights.com/15045-wp-ct3528-120-10-reel.html>[7/19/2017 3:01:08 PM]

LIGHTING FIXTURES

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE

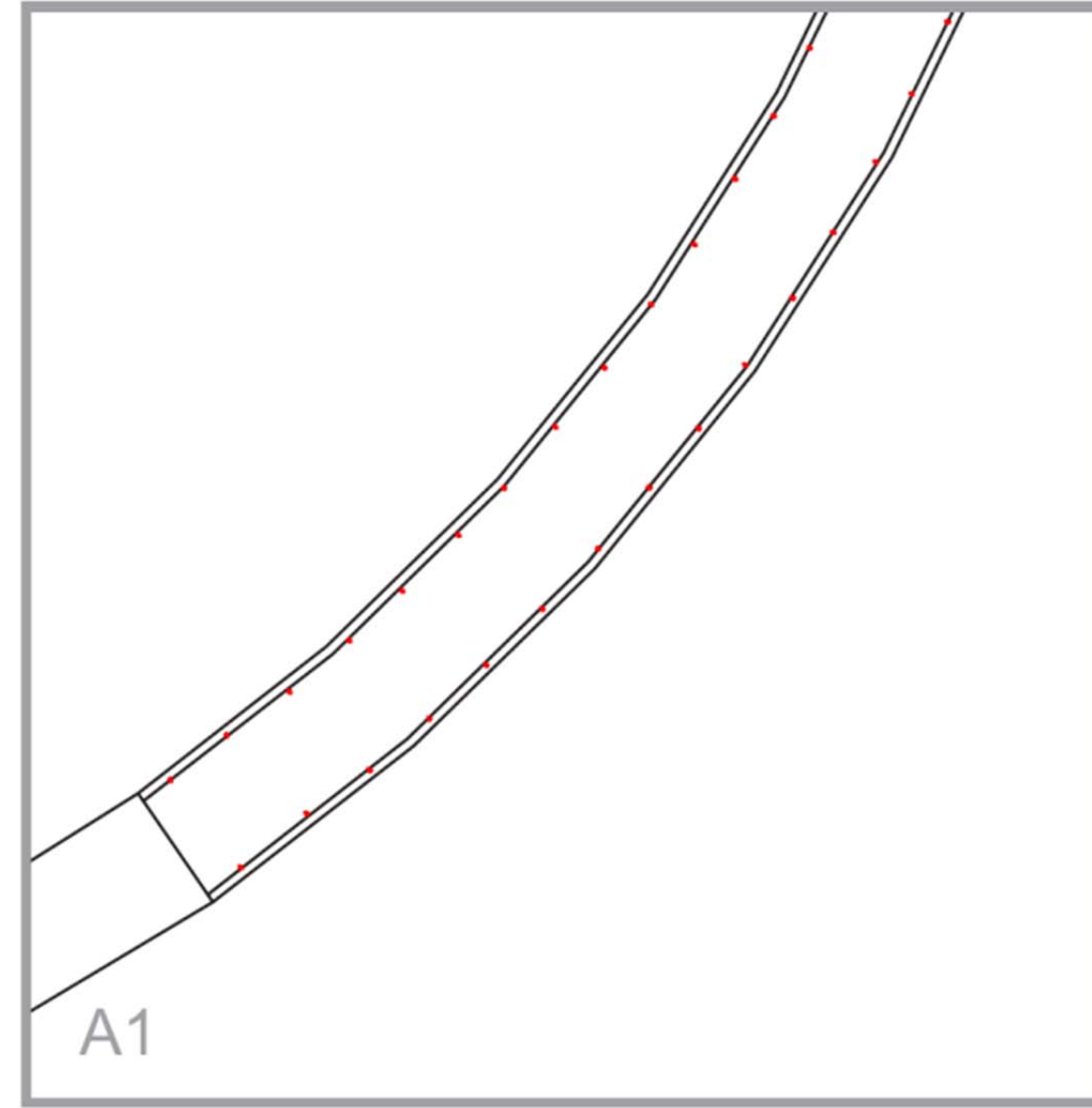
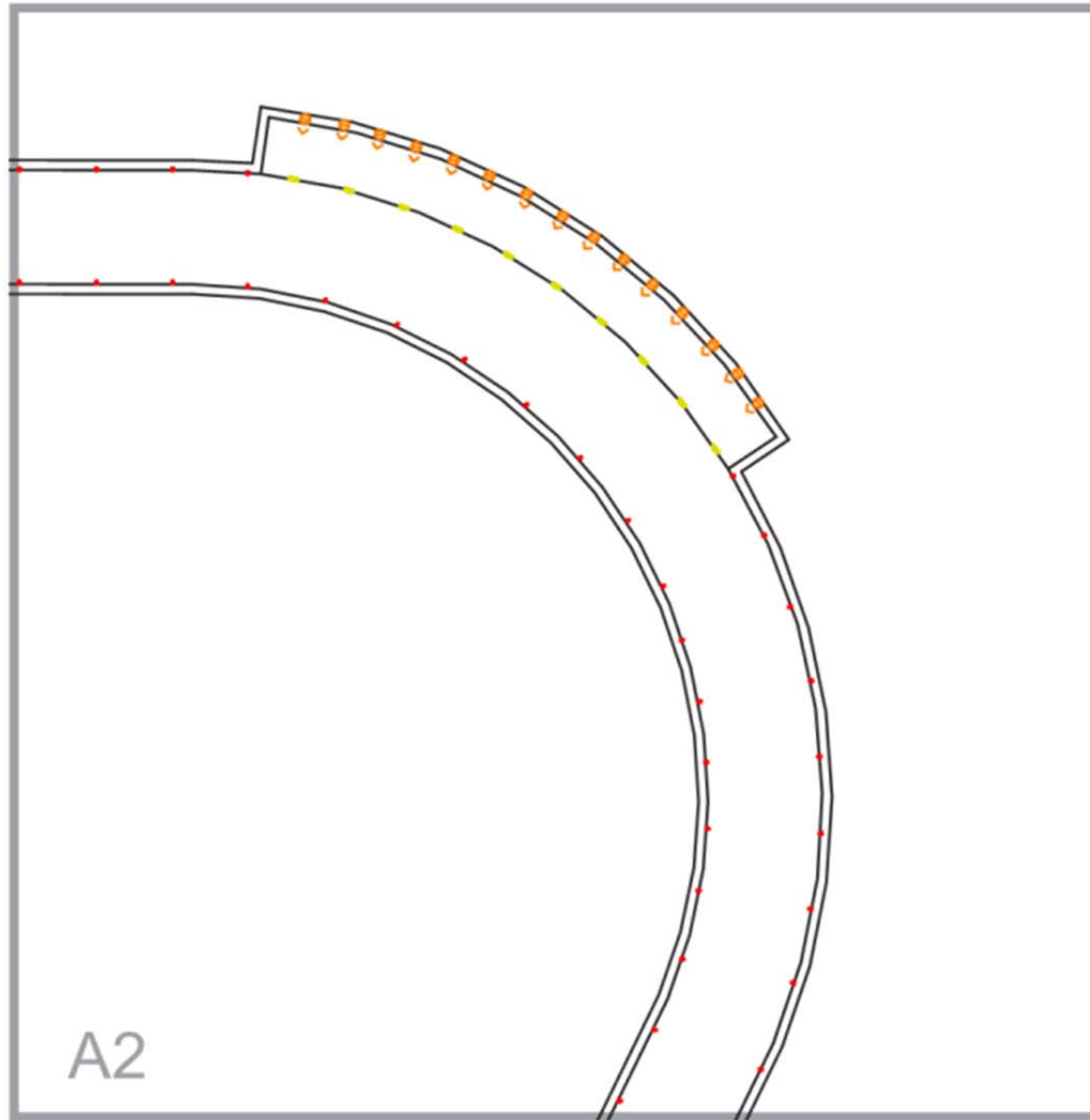




FIXTURE LAYOUT KEYPLAN

PALO ALTO PEDESTRIAN OVERCROSSING
SCHEMATIC LIGHTING DESIGN PACKAGE

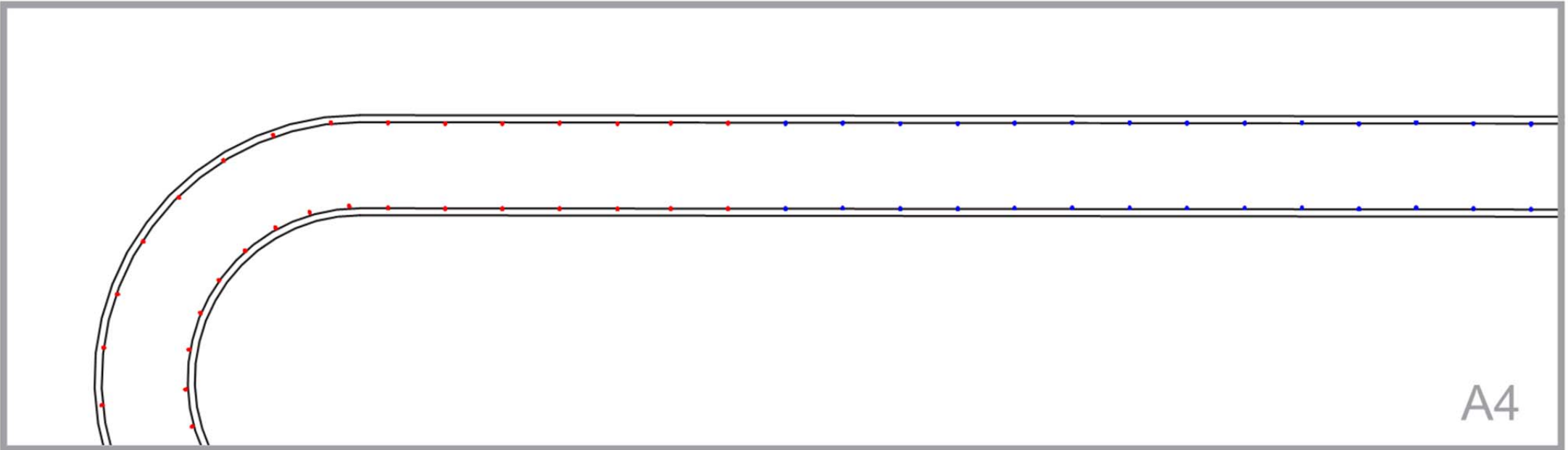
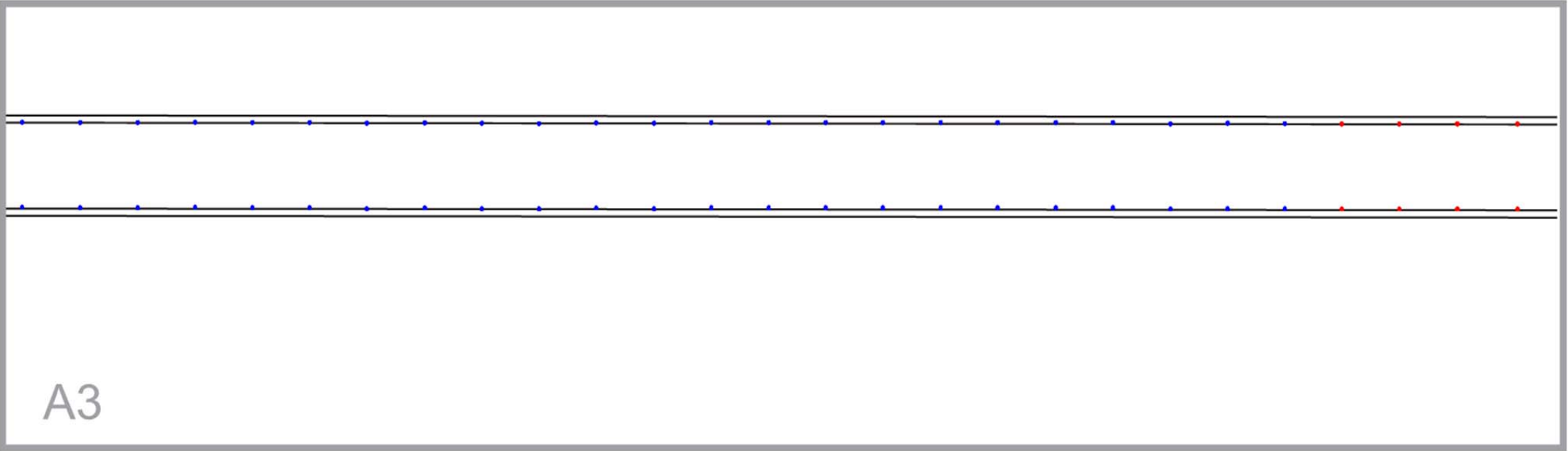




FIXTURE LAYOUT - A1,A2

PALO ALTO PEDESTRIAN OVERCROSSING
SCHEMATIC LIGHTING DESIGN PACKAGE

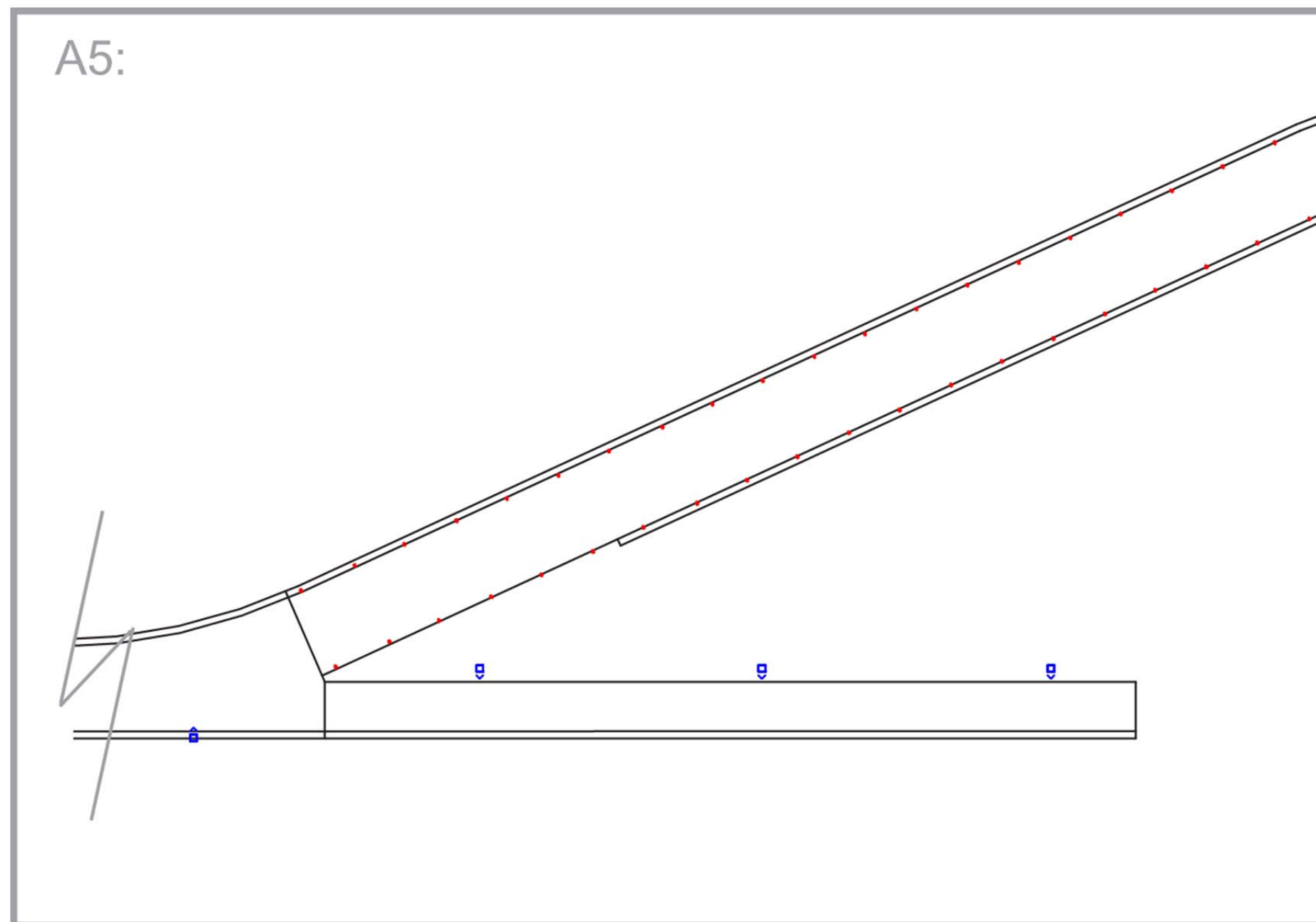




FIXTURE LAYOUT - A3,A4

PALO ALTO PEDESTRIAN OVERCROSSING
SCHEMATIC LIGHTING DESIGN PACKAGE

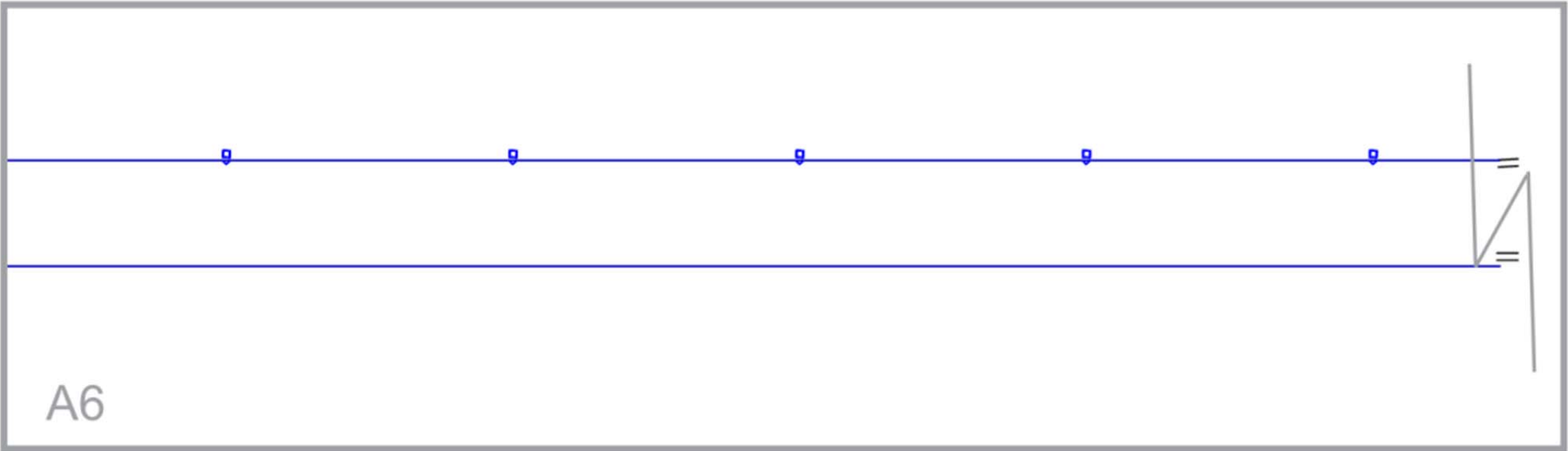




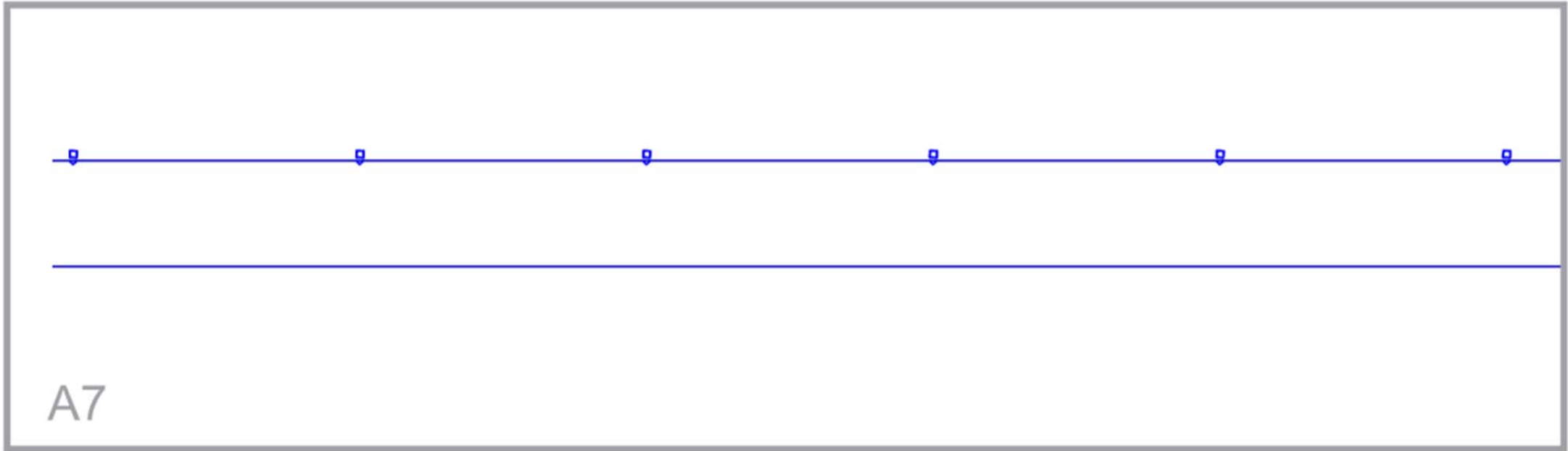
FIXTURE LAYOUT - A5

PALO ALTO PEDESTRIAN OVERCROSSING
SCHEMATIC LIGHTING DESIGN PACKAGE





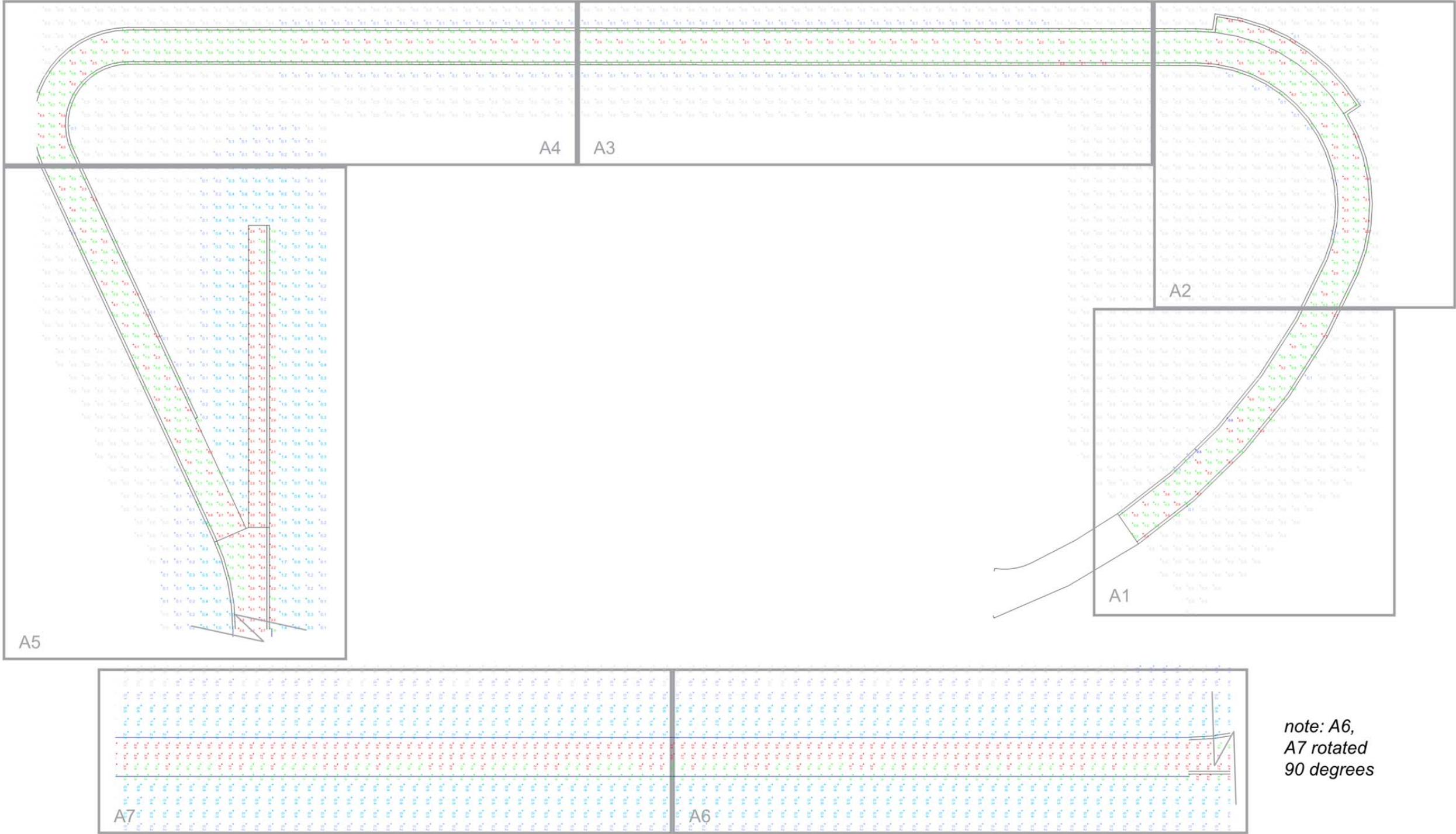
note: A5
rotated 90
degrees



FIXTURE LAYOUT - A6,A7

PALO ALTO PEDESTRIAN OVERCROSSING
SCHEMATIC LIGHTING DESIGN PACKAGE



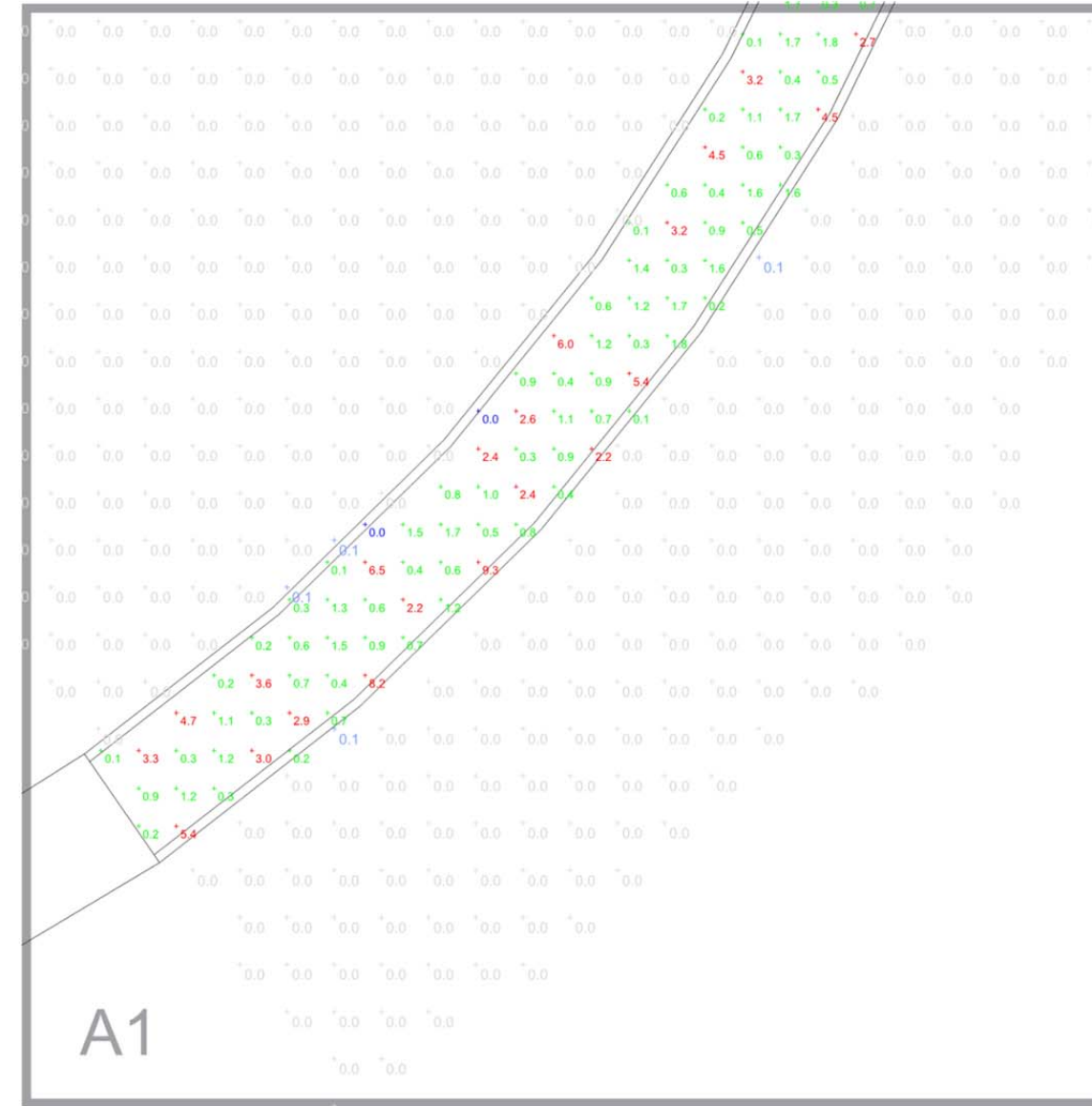
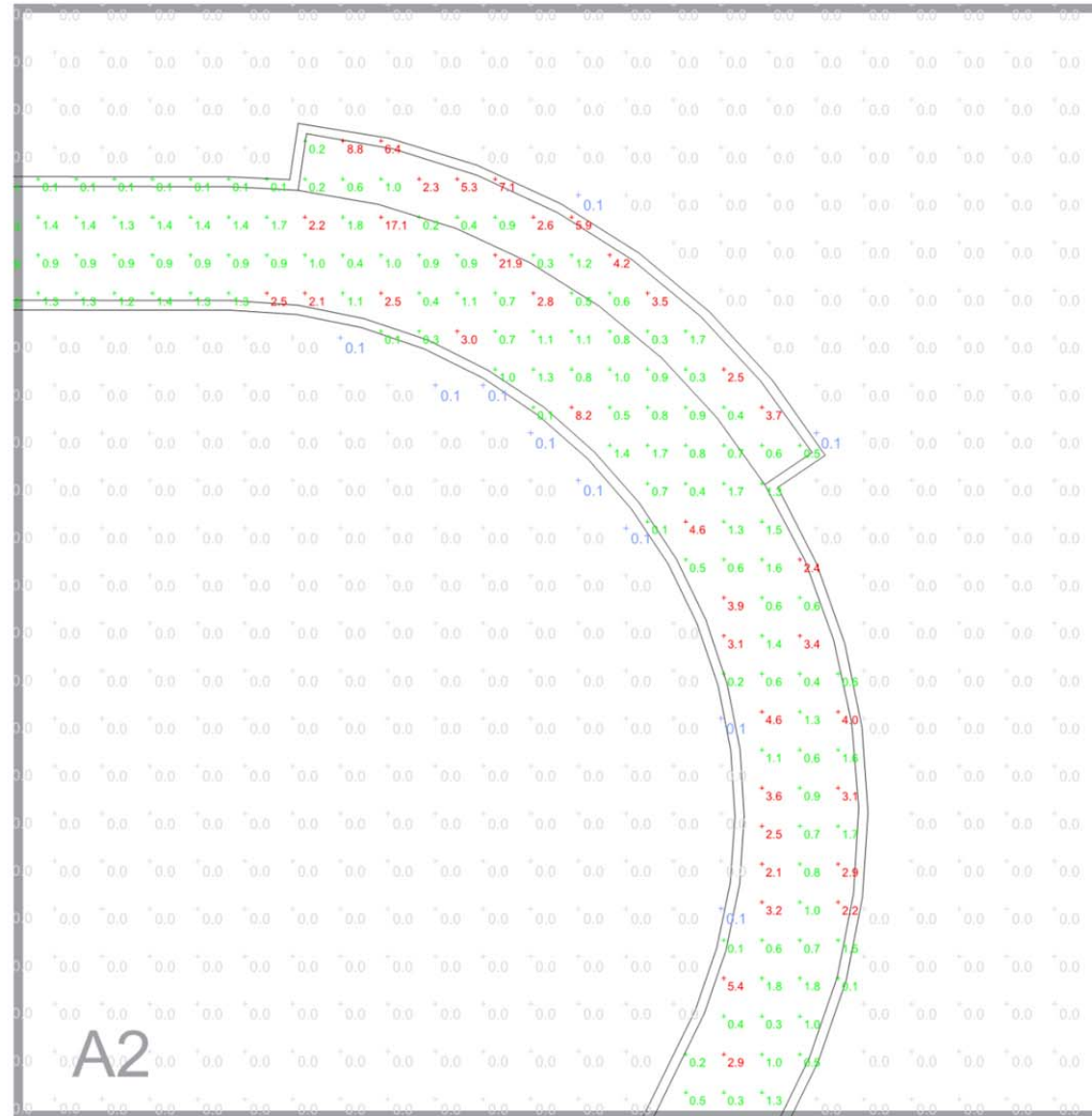


note: A6,
A7 rotated
90 degrees

**LIGHTING PHOTOMETRICS KEY-
PLAN - A1**

**PALO ALTO PEDESTRIAN OVERCROSSING
SCHEMATIC LIGHTING DESIGN PACKAGE**

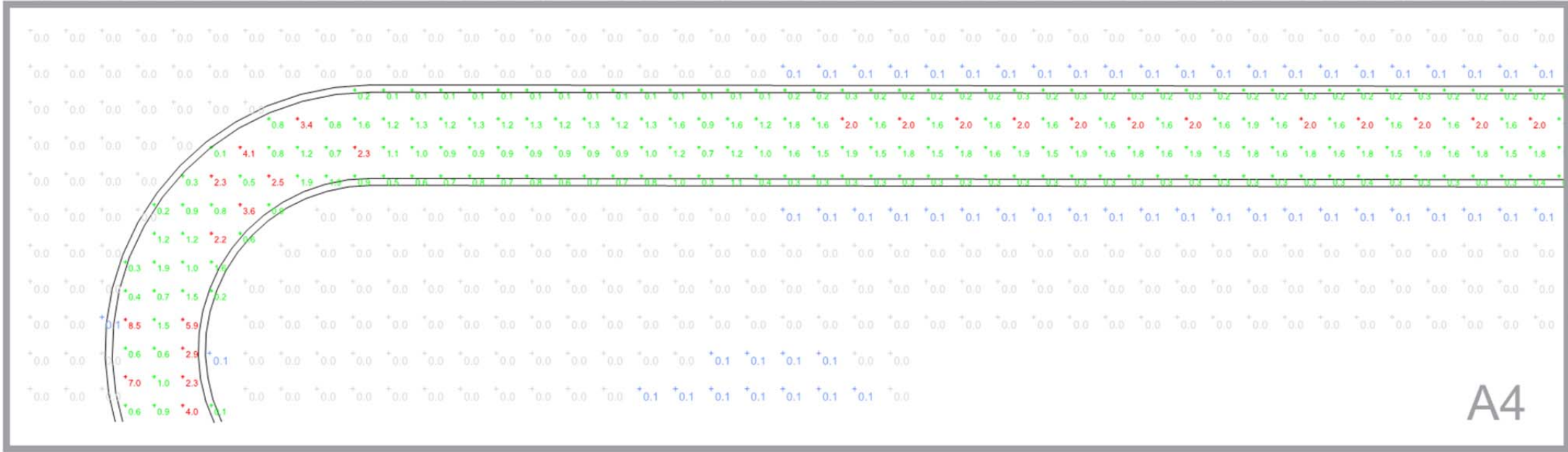
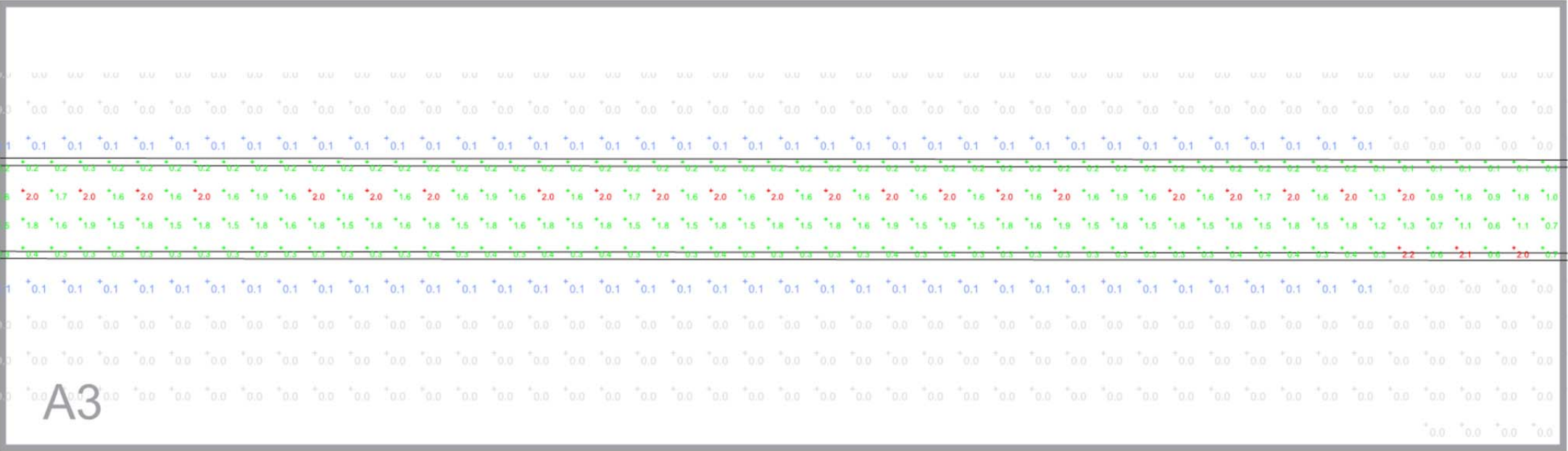




LIGHTING PHOTOMETRICS - A1,A2

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE



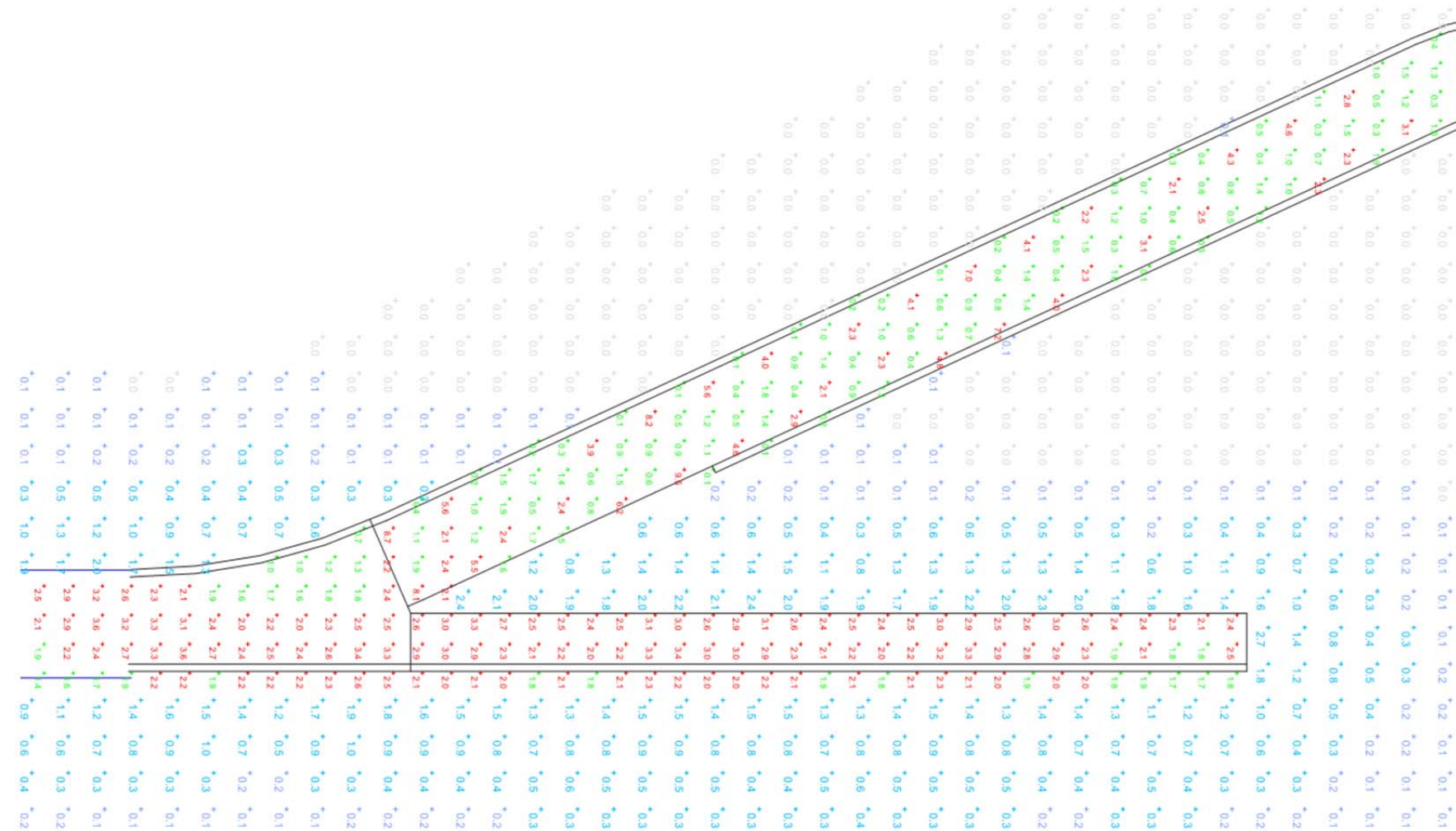


LIGHTING PHOTOMETRICS - A3,A4

**PALO ALTO PEDESTRIAN OVERCROSSING
SCHEMATIC LIGHTING DESIGN PACKAGE**



A5:



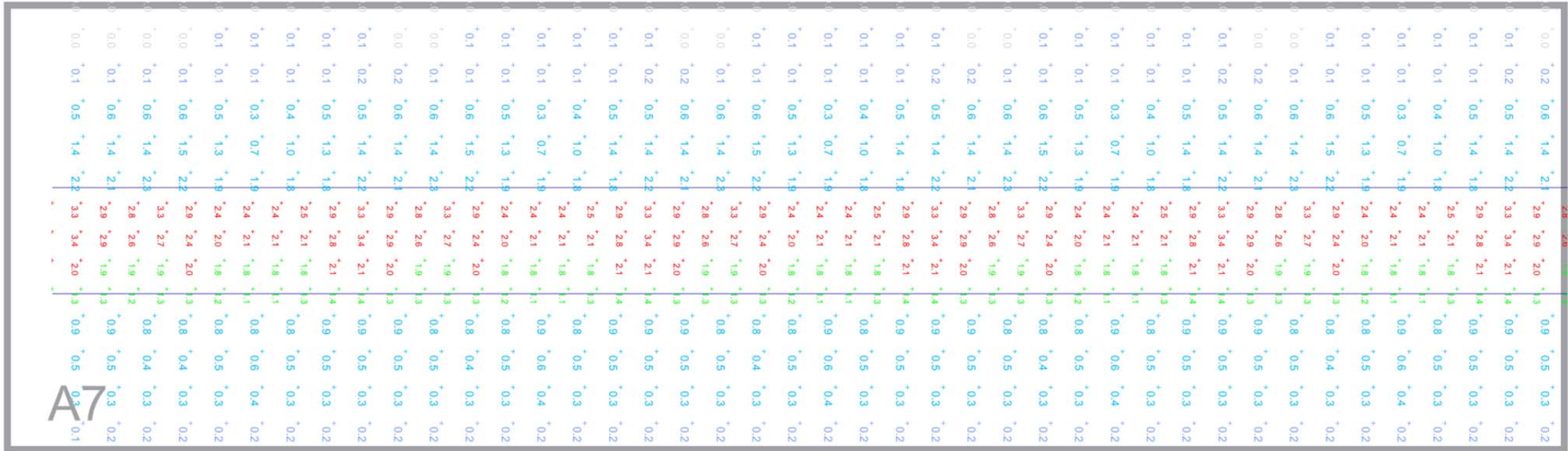
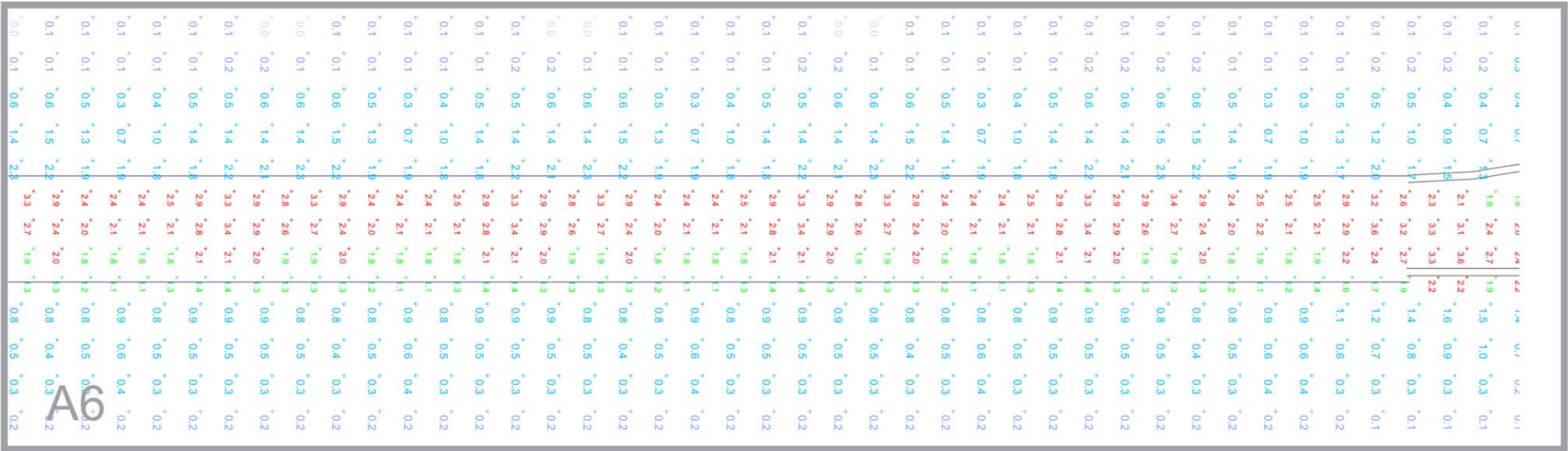
note: A5
rotated 90
degrees

LIGHTING PHOTOMETRICS - A5

PALO ALTO PEDESTRIAN OVERCROSSING SCHEMATIC LIGHTING DESIGN PACKAGE



note: A5
rotated 90
degrees



LIGHTING PHOTOMETRICS - A6,A7

PALO ALTO PEDESTRIAN OVERCROSSING
SCHEMATIC LIGHTING DESIGN PACKAGE



PROJECT DESCRIPTION

The proposed Highway 101 Multi-Use Path Overcrossing (Overcrossing) is located in the City of Palo Alto in Santa Clara County, between the East Oregon Expressway and San Antonio Road overpasses of Highway 101, and will replace the existing seasonal Benjamin Lefkowitz Underpass of Highway 101 located within the Adobe Creek corridor. The grade-separated crossing will provide year-round connectivity from residential and commercial areas west of Highway 101 to the Palo Alto Baylands Nature Preserve (Baylands), East Bayshore Business Park area, and the regional Bay Trail network of multi-use trails east of Highway 101. The project will include a new bridge structure over Highway 101 and West and East Bayshore Roads, a trail connection along Adobe Creek to East Meadow Drive, sidewalk improvements along West Bayshore Road, and landscaping and habitat restoration within the Baylands and along the Adobe Creek riparian corridor. The project lies primarily within City and Caltrans rights-of-way, although the south/west project area includes Santa Clara Valley Water District property and private property owned by Google.

The proposed Overcrossing will consist of multiple structure types in order to maximize the benefits of the different structure types for the various constraints present in the project. The Overcrossing structure is divided into the following major project elements (■ signifies the major structural components and ■ the elements of connection and congregation)

MAJOR PROJECT ELEMENTS

A

PRINCIPAL SPAN STRUCTURES

B

WEST APPROACH STRUCTURE

C

EAST APPROACH STRUCTURE

D

ADOBE CREEK BRIDGE

E

WESTERN ACCESS RAMP

F

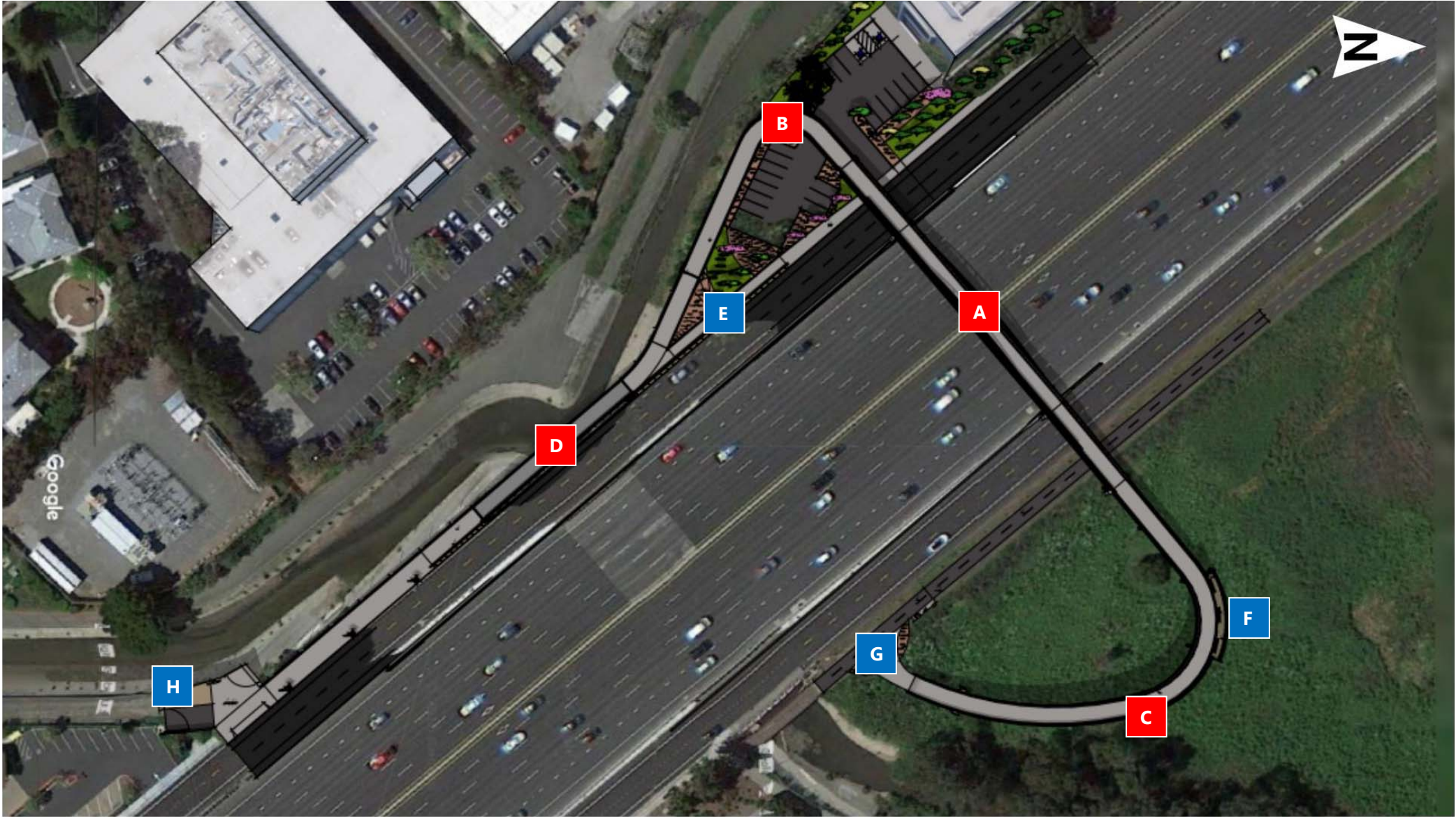
BAYLANDS OVERLOOK

G

BAYTRAIL CONNECTION

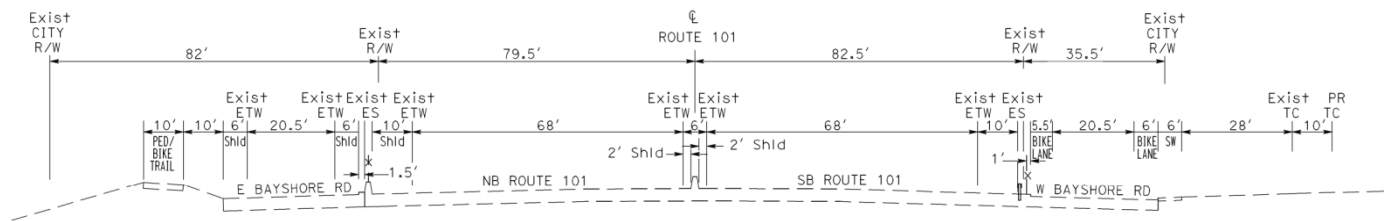
H

ADOBE CREEK TRAIL



A PRINCIPAL SPAN STRUCTURES

The Principal Span Structure is set to a straight alignment that is essentially perpendicular to the Highway 101 and Bayshore Road alignments. It consists of three simply-supported steel truss spans spanning across West Bayshore Road, Highway 101, and East Bayshore Road. At this location, Highway 101 is a 12-lane highway with a 162-foot wide right-of-way (See Figure below). East Bayshore Road consists of two travel lanes with a 20.5-foot wide traveled way and two 6-foot shoulders. West Bayshore Road consists of two travel lanes with an approximately 20.5-foot wide traveled way and a 5.5-foot shoulder and 6-foot bicycle lane.



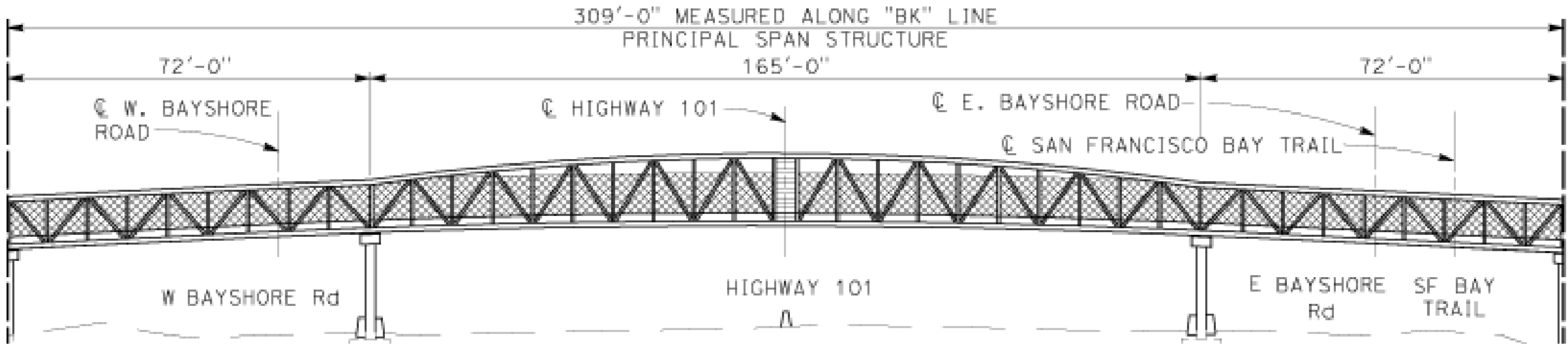
The span over Highway 101 will consist of a 165-foot long, simply-supported prefabricated steel bowstring truss. The bowstring truss is able to achieve the long clear span while keeping the profile depth from the top of deck to bridge soffit to a minimum. The adjacent side span clear-spanning over West Bayshore Road will consist of a 60'-0" long prefabricated steel Pratt truss. The adjacent side span clear-spanning over East Bayshore Road will consist of a 70'-0" long prefabricated steel Pratt truss. All spans will accommodate a 12-foot clear width pathway.

Bents under the Principal Structure spans will consist of 2-foot thick non-skewed concrete pier walls on cast-in-drilled-hole (CIDH) pile foundations. In order to reduce traffic control requirements within Highway 101, the pier walls adjacent to Highway 101 (Bents 6 and 7) will be founded on a concrete pile cap supported by CIDH piles located within the medians between Highway 101 and East and West Bayshore Roads. The concrete pier walls supporting the other ends of the steel Pratt trusses (Bents 5 and 8) will be founded on a concrete pile cap which is supported by CIDH piles. Pier walls at Bents 5 and 8 will support both the steel trusses of the Principal Span Structure and the end of the West and East Approach concrete slab spans.

Safety railings will be provided the full length of the Principal Span Structure. The railings will consist of 8-foot tall galvanized welded wire safety fencing.

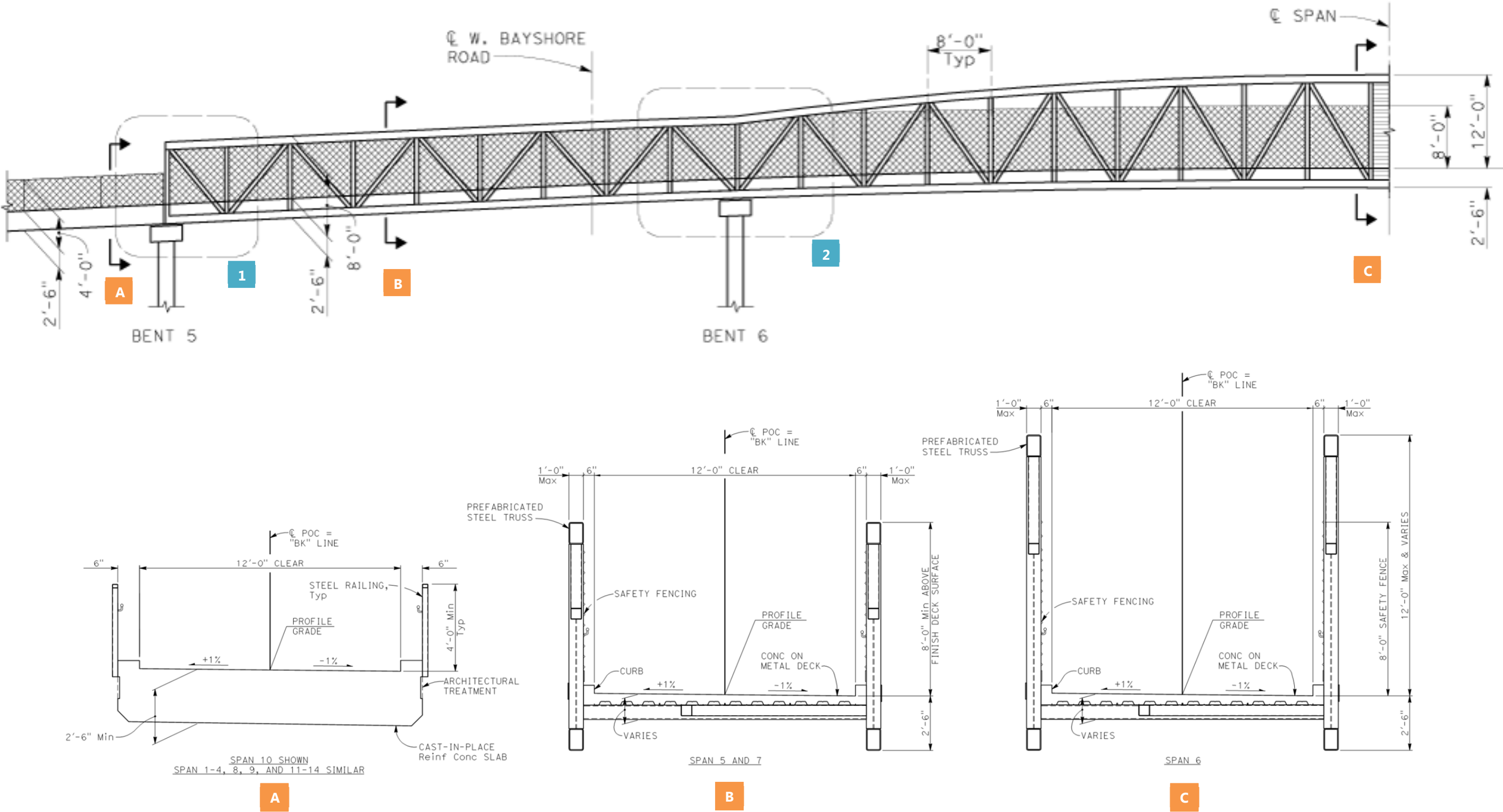
MATERIALS

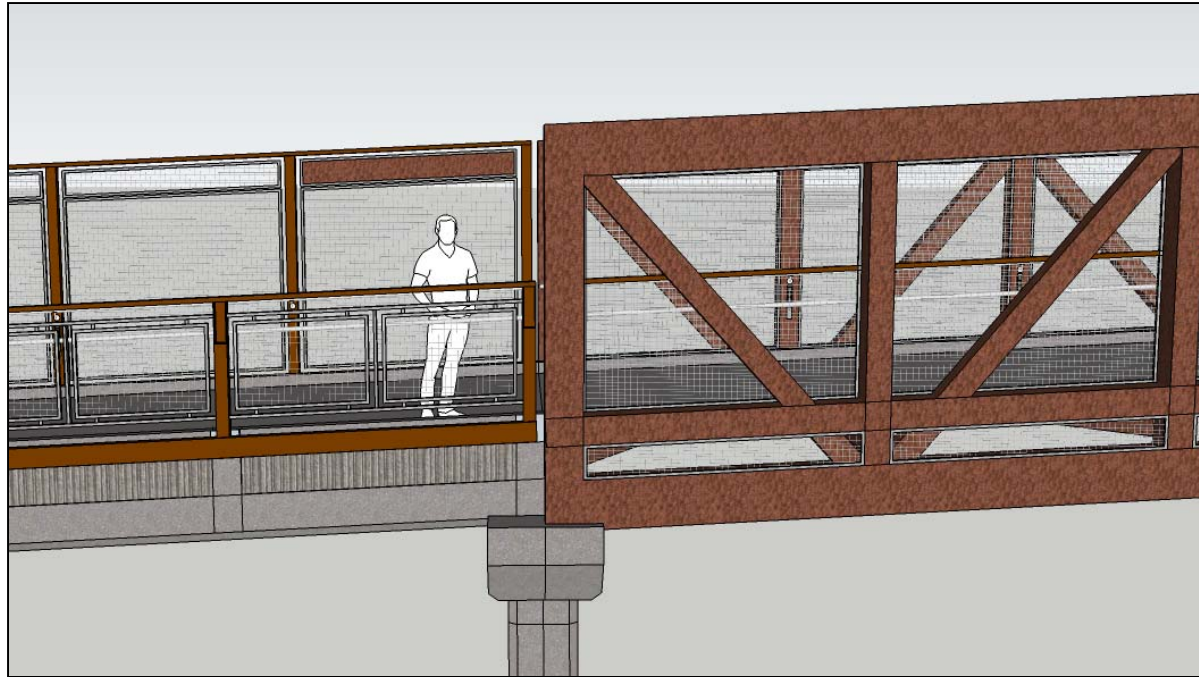
- MAIN TRUSS** – Self Weathering Steel ASTM A588/A606-4
- DECKING** – Cast-in-place (CIP) Concrete on Metal Decking
- PANEL RAILINGS** – Galvanized Metal Frame
- FENCING** – 77% Open Weaved Wire Mesh (1" min)



TRUSS ELEVATION

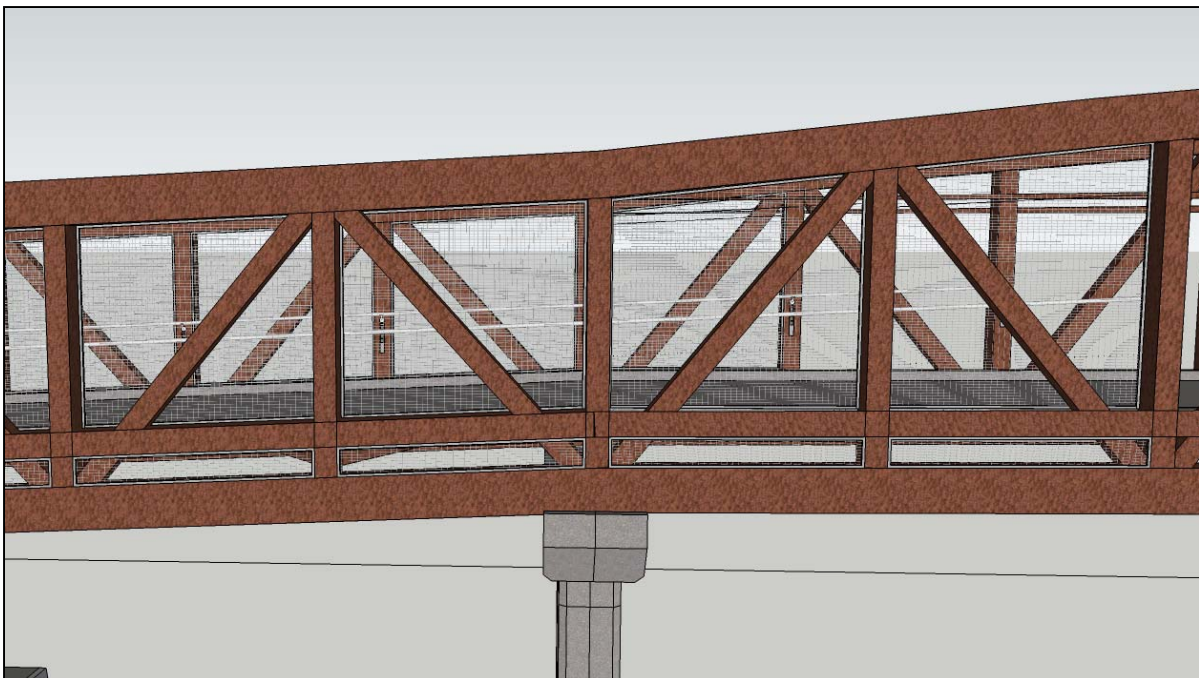
TRUSS LAYOUT





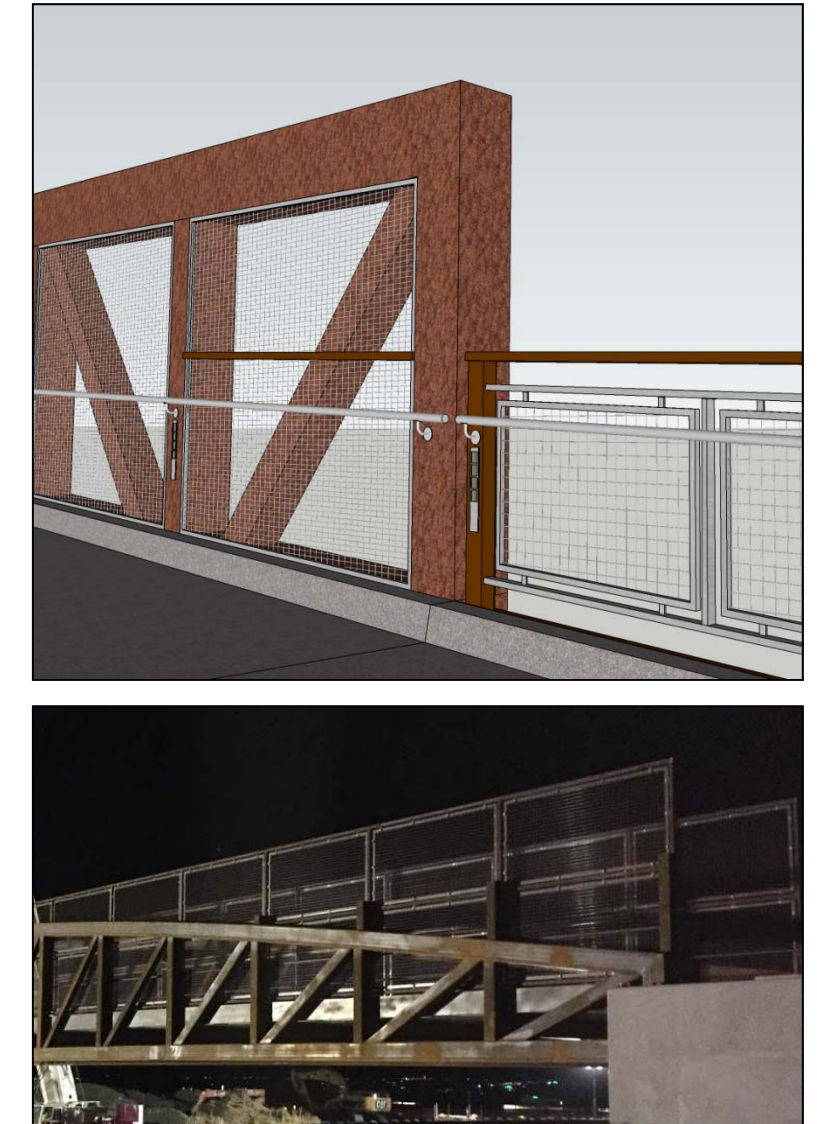
TRANSITION

1

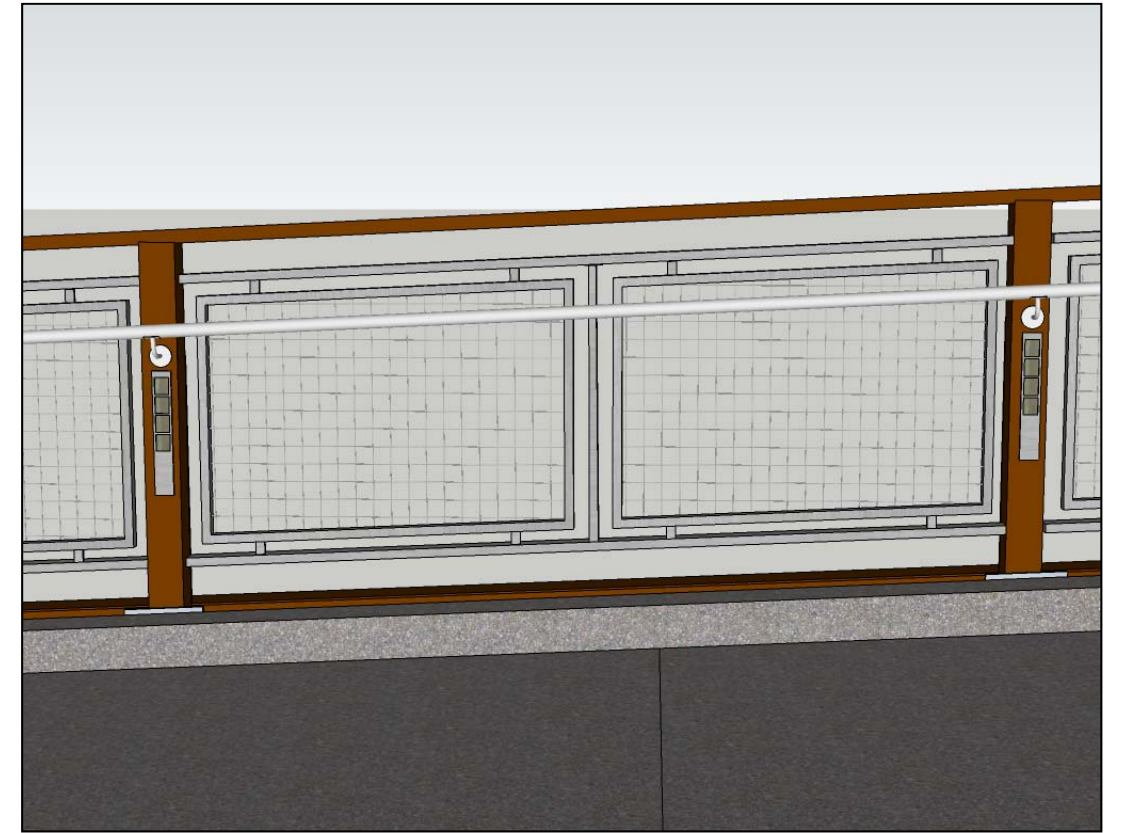
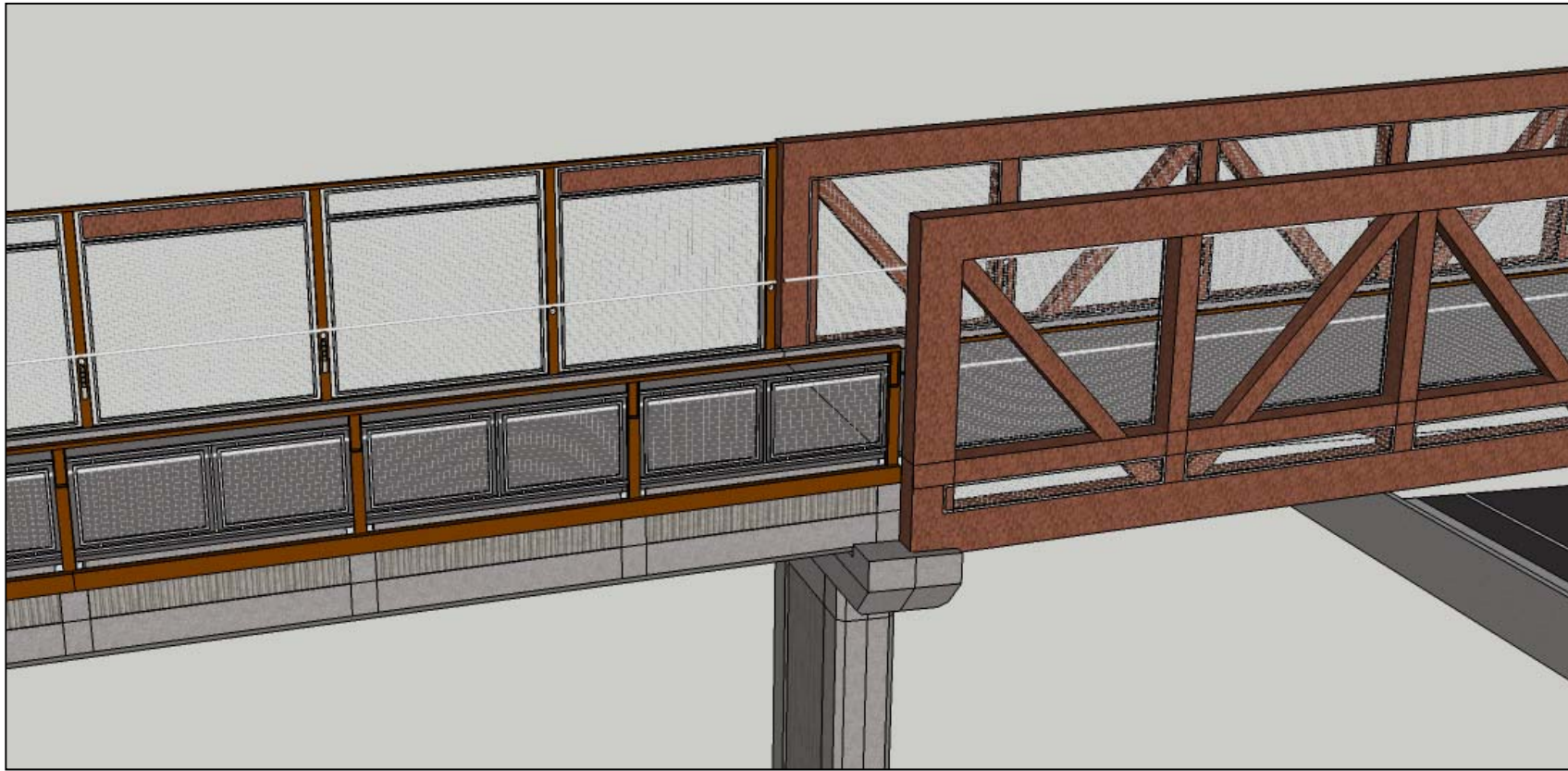


TRANSITION

2



BASE ARCHITECTURE + TRUSS FENCE SCHEMATIC



FENCING SCHEMATICS

B C WEST/EAST APPROACH STRUCTURES

The alignment of the West Approach Structure consists of an approximately 115 degree curve that directs pedestrian/bicycle traffic from along West Bayshore Road, over the Google parking lot, and to the Principal Span Structure over Highway 101. The alignment closely abuts the adjacent Barron Creek to enable retention of parking spaces with in the Google parking lot and to provide the maximum elevation gain between the adjoining Principal Span Structure and the Adobe Creek Bridge crossing.

The alignment of the East Approach Structure consists of an approximate 168-degree compound curve that directs pedestrian/bicycle traffic from the Principal Span Structure, over the Baylands, and back around to conform at the San Francisco Bay Trail.

The West/East Approach Structures consist of a four/seven span, 2'-6" deep rectangular columns supported on large diameter Type II CIDH pile shafts. The span lengths will vary from 40 to 50 feet long, resulting in a minimum span-to-depth ratio of approximately 0.050. The columns will have textural banding. The abutment will consist of a reinforced concrete seat-type abutment supported by a large diameter CIDH pile. All spans will accommodate a 12-foot clear width pathway.

Architecturally enhanced safety railings will be provided the full length of the West Approach Structure. The railings consist of 4-foot to 8-foot tall effective safety fencing.

MATERIALS

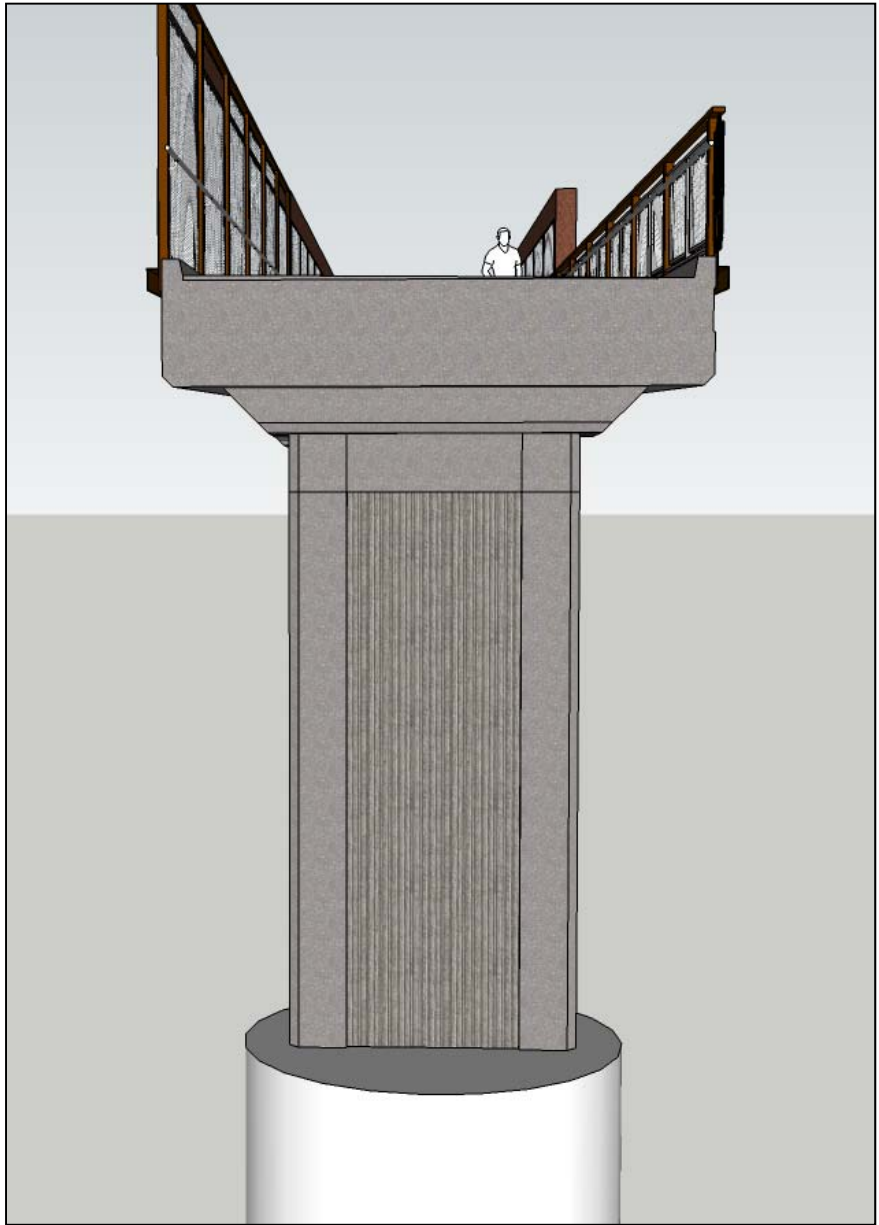
SUPERSTRUCTURE SLAB – CIP Concrete Reinforced Slab

TEXTURAL BANDING – Fractured Fin Surface

PANEL RAILINGS – Galvanized Metal Frame

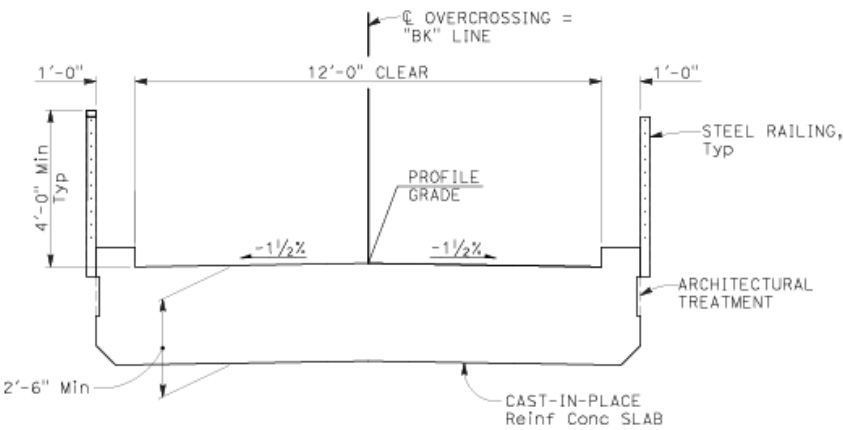
FENCING – 74% Open Weaved Wire Mesh

BENTS – CIP Concrete with Form-lined Textural Banding

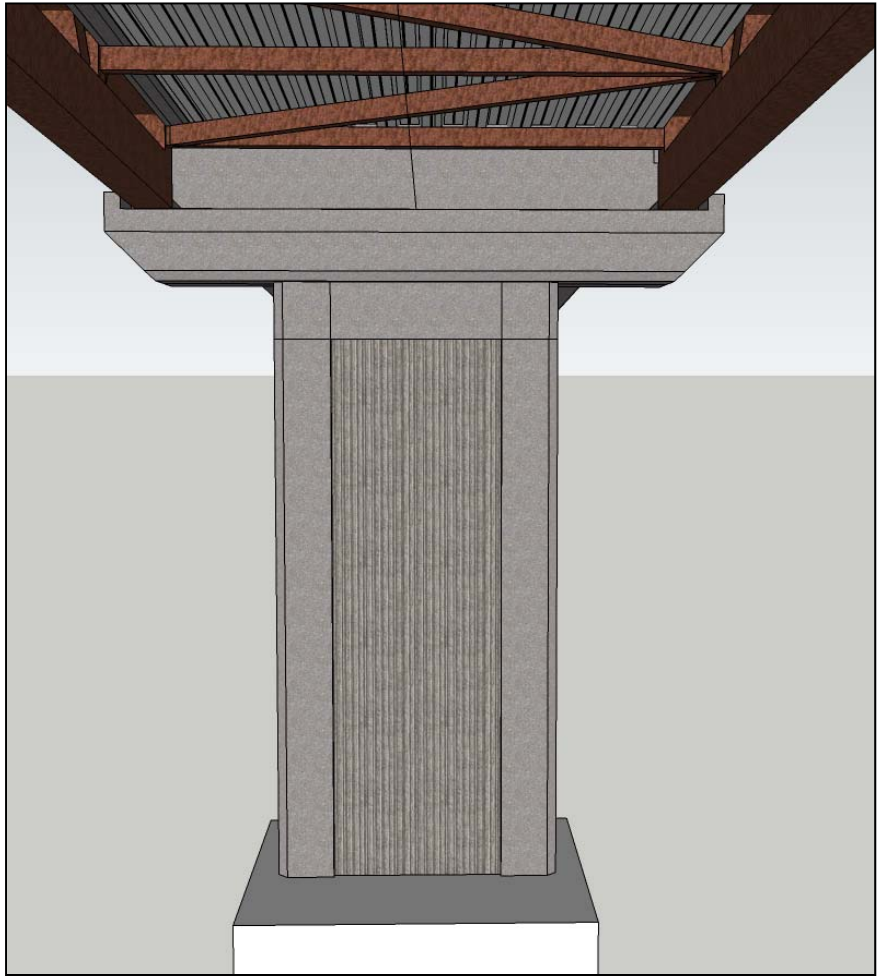


TYPICAL RAMP BENT (Bent 4 Shown, others similar)

BENT SCHEMATICS



RAMP CROSS SECTION



AT BENTS 5 TO 8

D ADOBE CREEK BRIDGE

The Adobe Creek Bridge consists of a 140-foot long prefabricated steel Pratt truss, spanning over the confluence of Barron and Adobe Creeks, adjacent to the existing Adobe Creek Bridge (Bridge No. 37C-0060) along West Bayshore Road. The bridge will accommodate a 12-foot clear width pathway allowing for travel in both direction. The top chord of the steel truss will serve as the top chord of the 4 foot high safety railing for the structure. The abutments will consist of concrete seat type abutments supported by large diameter CIDH piles. It will maintain the same character and style as the existing bridge crossing Adobe Creek adjacent to E Bayshore Road.



EXISTING ADOBE CREEK BRIDGE at E BAYSHORE RD

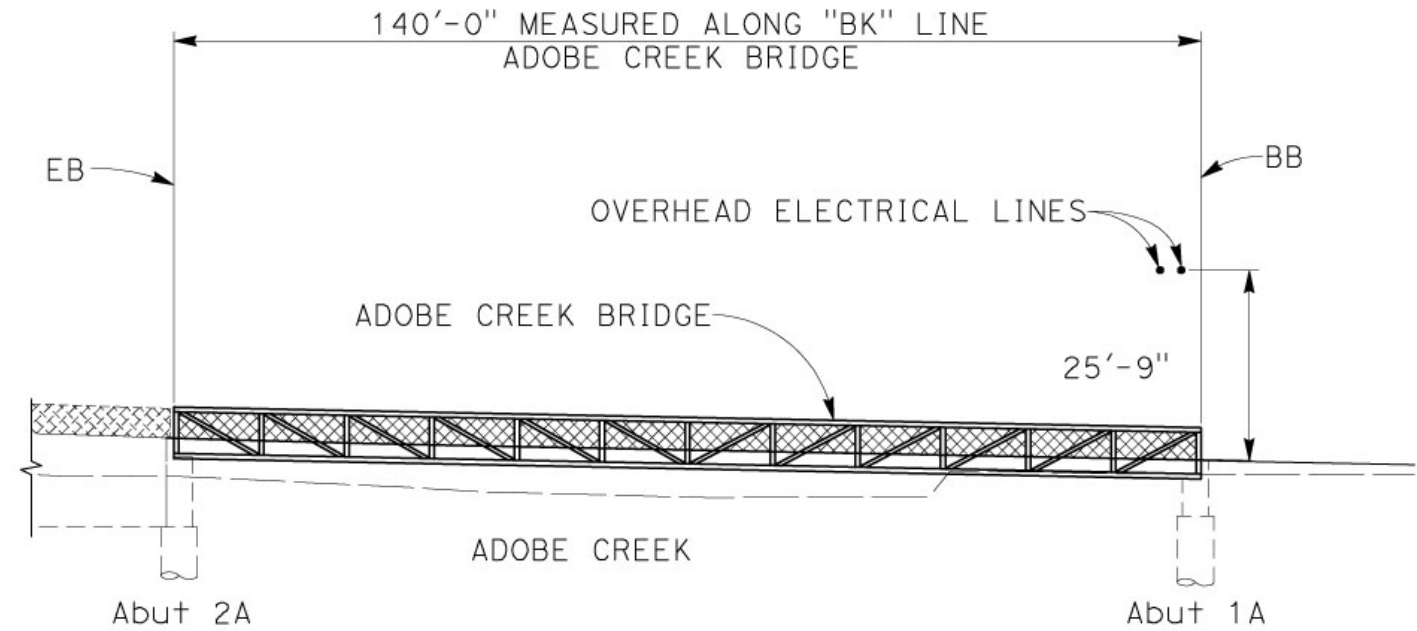
MATERIALS

MAIN TRUSS – Self Weathering Prefabricated Steel Truss

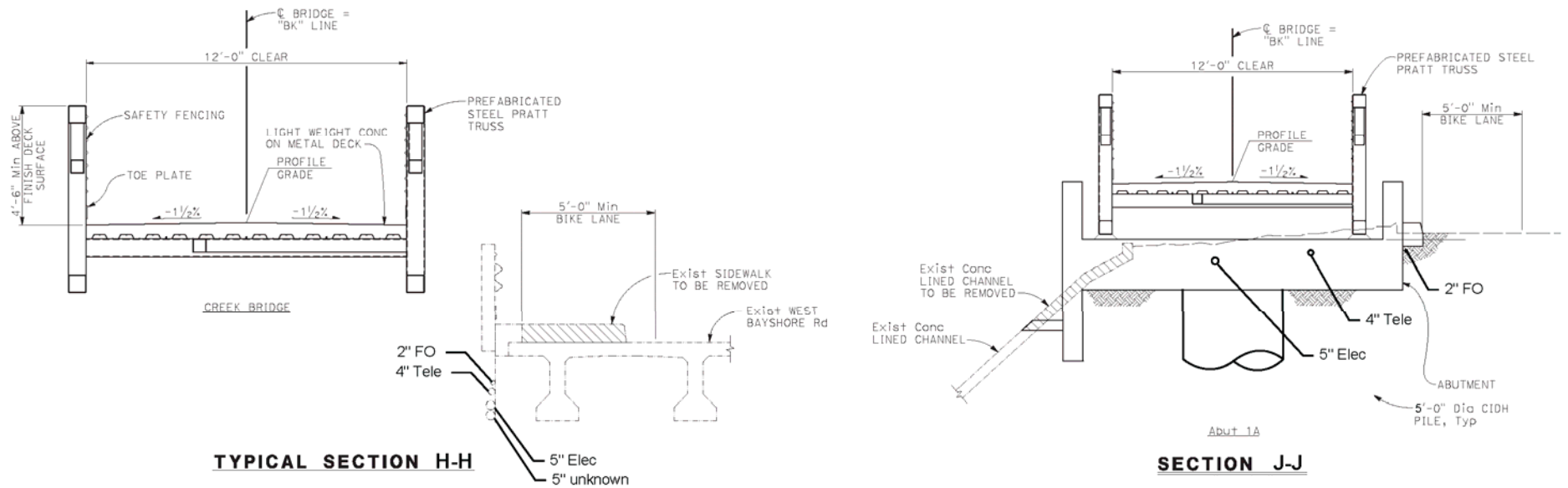
DECKING – CIP Concrete on Metal Decking; Color: Standard Concrete Grey

PANEL RAILINGS – Self-weathering Integrated Metal Rails

ADOBE CREEK BRIDGE SCHEMATICS



TRUSS ELEVATION



TRUSS CROSS SECTIONS

E ACCESS RAMP/CREEK RETAINING WALLS

A pedestrian access ramp has been incorporated into the Western Approach Structure between the Google property (3600 West Bayshore Road) and Adobe Creek Bridge to provide continuous access for pedestrians along West Bayshore and access to the Overcrossing. For northbound pedestrians along West Bayshore Road the access structure can reduce the length of travel by roughly 500 feet. This access structure also provides equal access to mobility impaired trail users and provides a pedestrian bypass allowing the existing bike lane along West Bayshore road to be made continuous across the existing Adobe Creek Bridge. It also provides a functional ADA compliant alternative access which can be used as an ingress/egress if and when the SCVWD closes the trail access area for their channel sedimentation maintenance.

RAMP WALL – Retaining Wall #1

The access ramp wall will be supported by a Caltrans Standard Type 5 Retaining Wall. The tallest section will support the “Y” landing from the access ramp to the Adobe Creek Bridge abutment. The 8-foot clear ramp will be ADA compliant with a 7.5% max slope and 5-foot landings for every 30” vertical rise. The walls will have the theme banding and textured surfaces to deter graffiti.

CREEK WALLS – Retaining Wall #3 & #4

The creek walls will also be Caltrans Standard Type 5 walls against the channel. Retaining wall #3 will extend from the POC abutment to the Adobe Creek Bridge abutment and support the ramp fill and the “Y” landing. Retaining wall #4 is located on the other side of the Adobe Creek Bridge and extends from the Bridge Abutment to the exiting landing of the undercrossing entrance to support the widened sidewalk.

MATERIALS

CONCRETE WALLS – CIP Concrete with Form-lined Textural Banding;
Color: Standard Concrete Grey

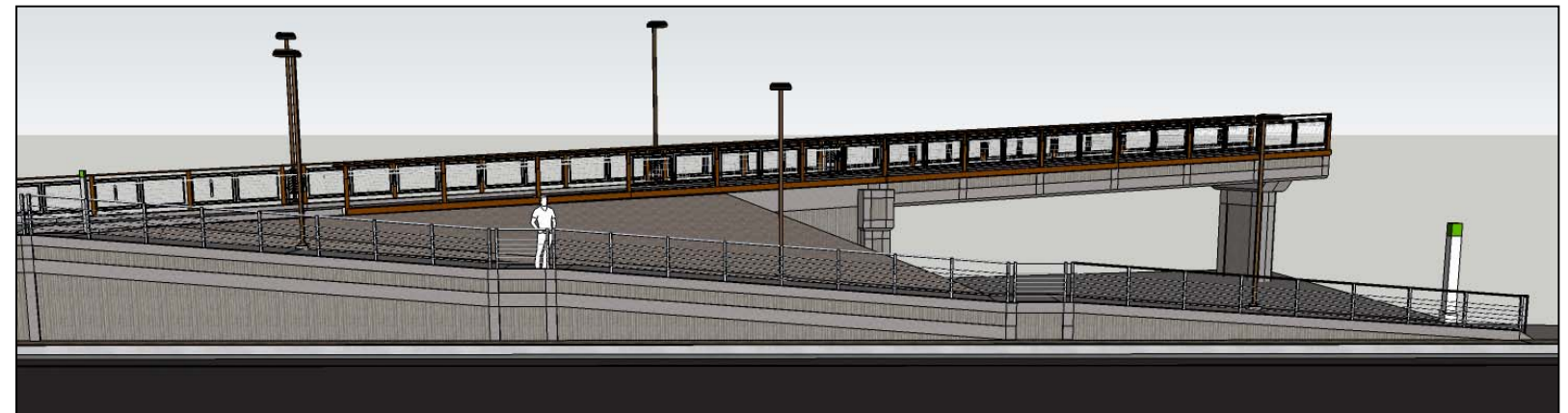
TEXTURAL BANDING – Fractured Fin Surface

RAMP RAILINGS – Metal Post with Welded Wire Mesh Fence

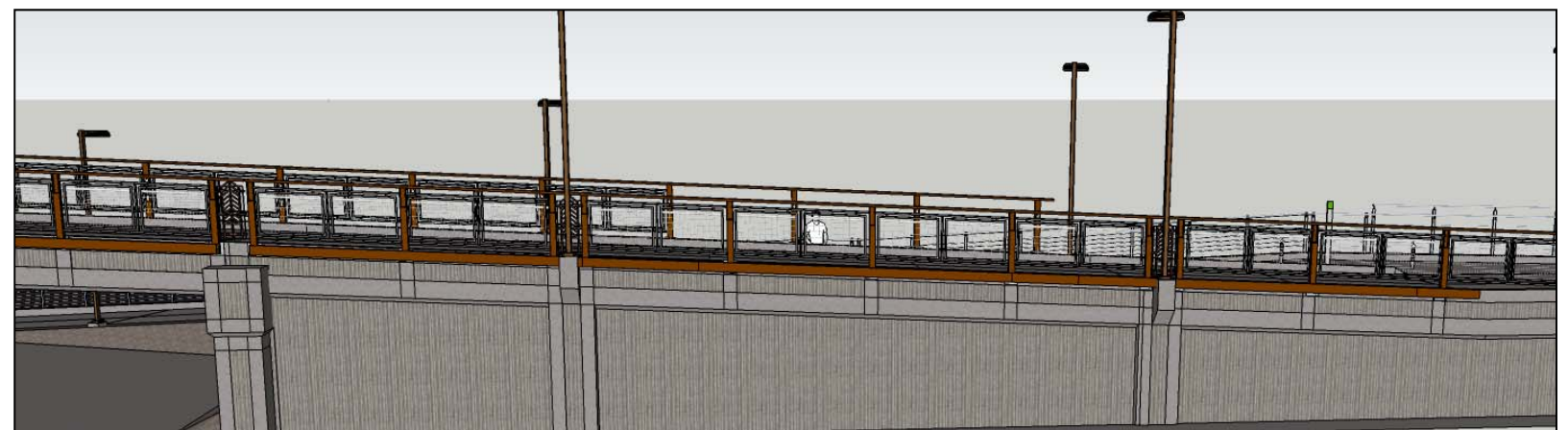
CREEK RAILINGS – Same as approach ramps



ACCESS RAMP IMPROVEMENTS



ACCESS RAMP WALL ELEVATION



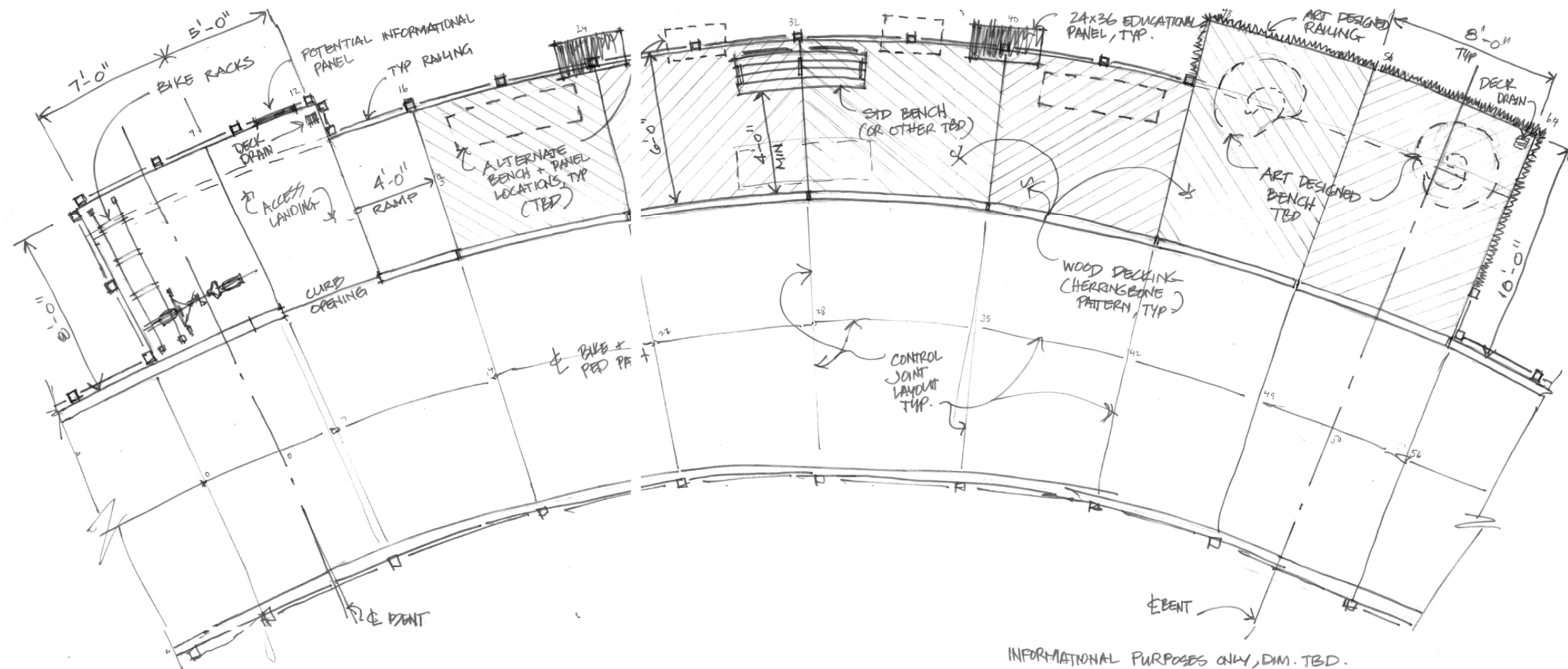
CREEK WALL ELEVATION

F BAYLANDS OVERLOOK

In order to provide the trail users an opportunity to pause, rest and view the adjacent Baylands without impeding pedestrian and bicycle through traffic. The architecture of the overlook will extend from the main bridge structure elements. The overlook will be decked with a wood finish to make the area more distinguishable from the main pathway and to give it some warmth in texture and color. Benches will be located along the overlook to allow users to rest and/or view the surrounding vistas of the Baylands. The decking and the bench elements could potentially be constructed from the existing timber decking being removed from the adjacent Baylands Boardwalk project that can be recycled, refinished and repurposed as part of the Overcrossing Project.

It is envisioned that the art elements will be primarily located on the overlook in the form of benches, railings and art panels. The City has hired Mary Lucking Studio to develop the art work. The artwork will be coordinated with the design team and may be incorporated as part of the design contract drawings

Informational and educational signage will also be located on the overlook to further enhance the experience for the users.



OVERLOOK CONCEPTUAL BASE PLAN

G BAYTRAIL CONNECTION

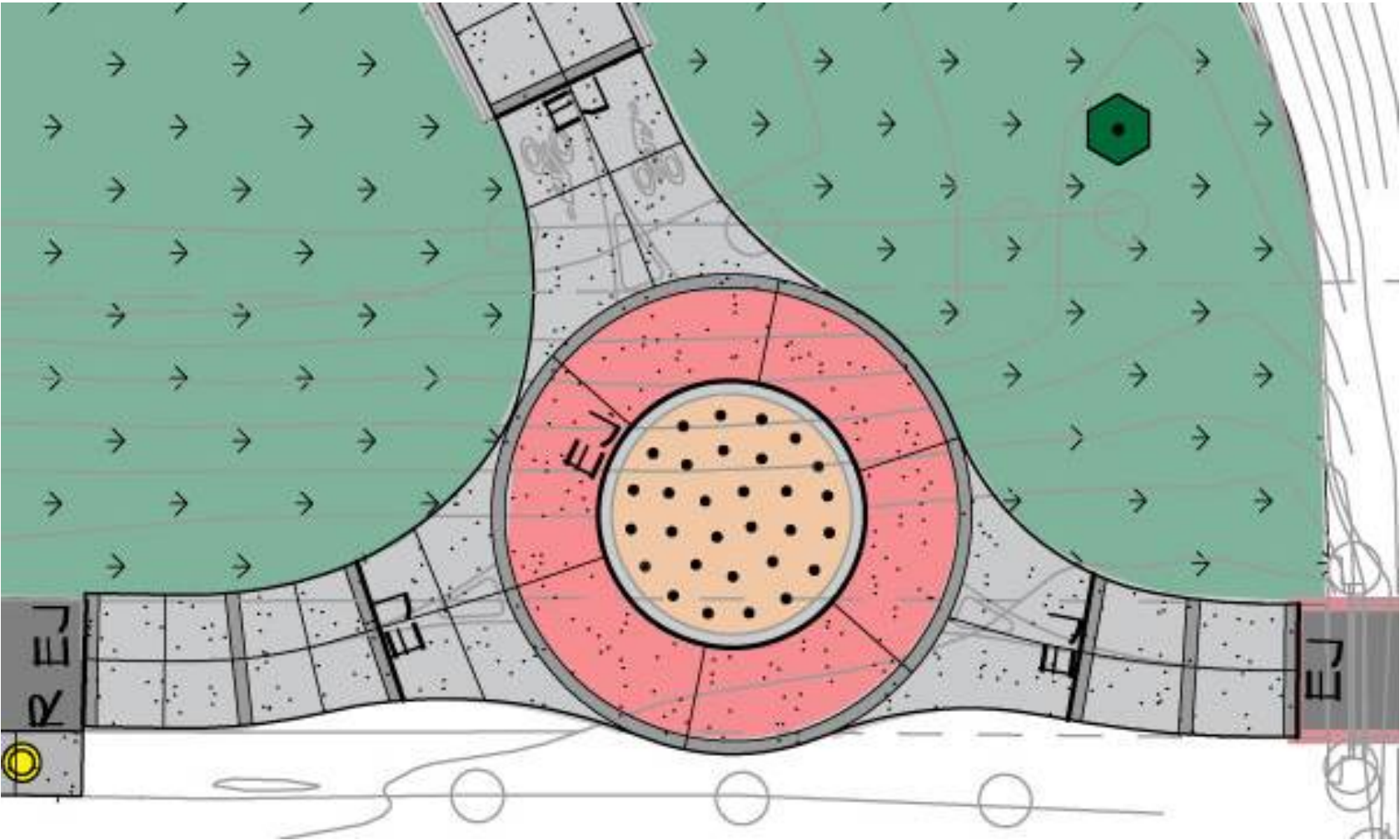
The intersection was reconfigured to a roundabout configuration. The inner circle and edge of mountable apron will have a radius of 7-feet and the outer path radius will be 15-feet. The path will possibly be used in combination with signage and pavement markings to slow bicyclists. The circle path will also be colorized to differentiate the roundabout and to serve as a visual cue for both bicyclists and pedestrians.

MATERIALS

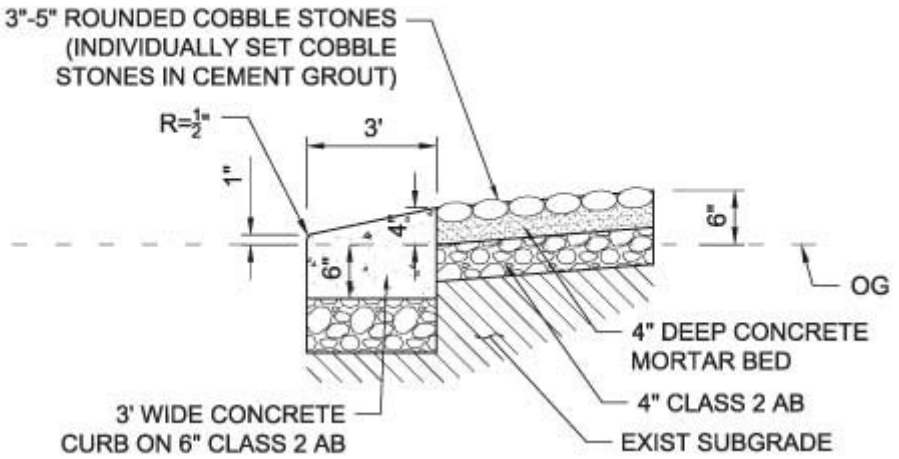
CONCRETE PAVING CIRCLE – Colored concrete paving. Color will be a reddish color TBD.

CONCRETE APPROACH PAVING – Concrete paving. Paving layout to match spacing on bridge edge.: 9" band and 96" control joint spacing between bands.

ROUNDAABOUT APRON HARDSCAPE – 3" mountable apron curb surrounding a cobble stone center finish. See Mountable Apron Detail.



ROUNDAABOUT



MOUNTABLE APRON

H ADOBE CREEK TRAIL/TRAILHEADS"

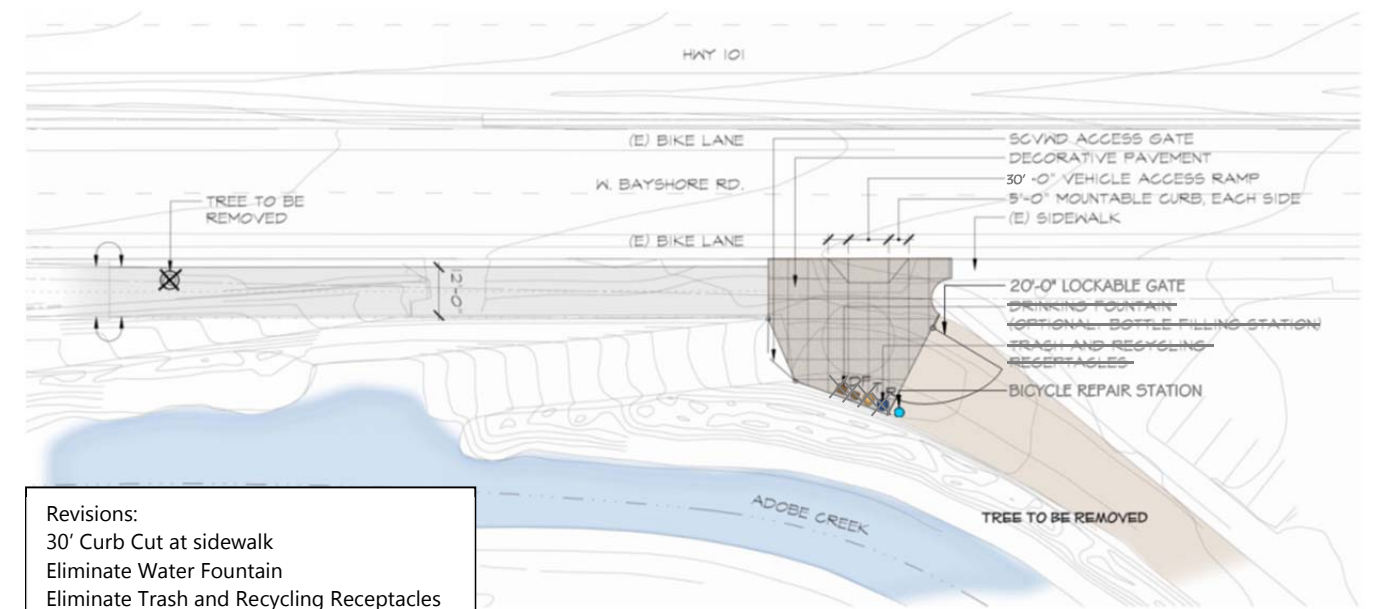
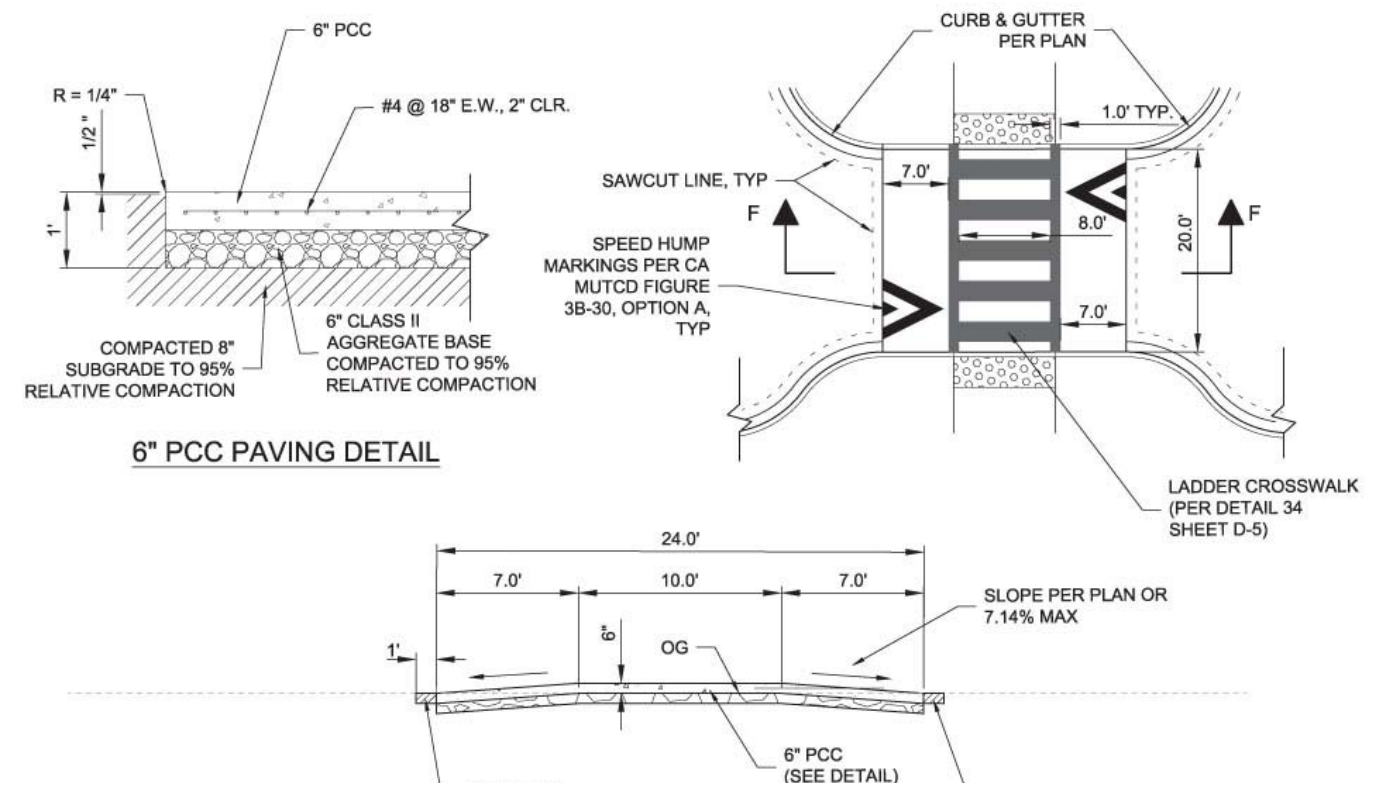
The proposed Adobe Creek Reach Trail involves designating a 10-foot wide section along the approximately 800 linear feet segment of the existing Santa Clara Valley Water District (SCVWD) maintenance road on the east side of Adobe Creek, between West Bayshore Road and East Meadow Drive, as the Adobe Creek Reach Trail. The Adobe Creek Reach Trail will provide a more direct, comfortable, and potentially safer alternative to Fabian Way/West Bayshore Road for pedestrians and bicyclists. The trail will utilize the existing SCVWD maintenance road along Adobe Creek (maintaining the existing aggregate base surfacing) and will include installation of safety railing along the top of bank of Adobe Creek (subject to acceptance by the SCVWD). The project will include trail heads at West Bayshore Road and East Meadow Drive. Trail heads will consist of simple concrete connections to the adjoining streets/sidewalks (no formal plazas), associated pavement delineation and street signage. Resurfacing of the Adobe Creek Reach Trail was not originally included in this project. However, potential trail resurfacing as part of a future project will be environmentally cleared as part of this project.

MEADOW WAY TRAILHEAD

Based on the coordination with Transportation, the project modified the Meadow Way Trailhead at Adobe Creek trail to incorporate a raised crosswalk and bulb outs that are also being done as a part of a separate bike safety project by the City in the area. Signage will be coordinated with staff

WEST BAYSHORE TRAILHEAD

Based on the coordination with Transportation and the SCVWD, the trailhead at the Adobe Creek trail will be a large open concrete paved area. The open area will be used as a staging area for the SCVWD when they perform their maintenance operations. They would also like gates on either side to store equipment during those periods. Minor amenities will be located at this trailhead subject to SCVWD approval.



AMENITIES

As part of the council direction, enhanced amenities were approved to be incorporated as part of the overall project, including hydration station, benches, upgraded trash receptacles and bicycle racks.

ENHANCED AMENITIES LIST

BAYTRAIL TRAILHEAD

- HYDRATION STATION – Elkay EZ-H2O LK4420-BF1; bottle filling station, water fountain, pet fountain, Color TBD
- TRASH/RECYCLE RECEPTACLES – Du Mor #148
- BIKE REPAIR STAND – DERO FIXIT with Air Kit, Galvanized, Color TBD

ADOBE CREEK TRAILHEAD

- BIKE REPAIR STAND – DERO FIXIT with Air Kit, Galvanized, Color TBD
- BIKE RACKS – FORMS+SURFACES Bike Garden Racks, Color TBD
- BENCHES – Artist-designed benches with back and armrests



HYDRATION STATION – Elkay EZH2O



BIKE RACK – Emerson Bike Rack



BIKE REPAIR STAND – Dero Fixit



TRASH RECEPTACLES – DuMor Model 148-32SH-FTO

SIGNAGE

- Signage is limited to 5 areas:
- Baytrail Connection
 - Adobe Creek Trailhead @ Meadow
 - Adobe Creek Trailhead @ Bayshore
 - The "Y" Landing
 - The Overlook

WAYFINDING SIGNS

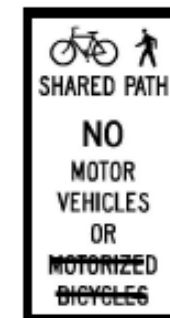
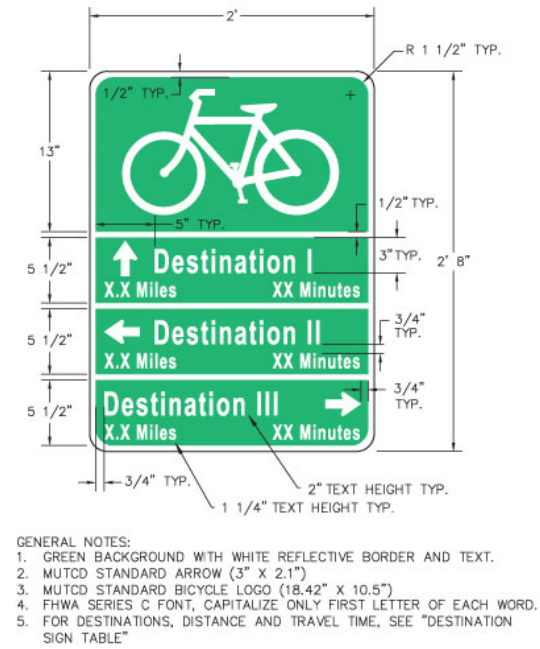
Destination Wayfinding
Roundabout Wayfinding
Green background with white reflective border and text.

INFORMATIONAL SIGNS

Pedestrian Crossing Warning Sign
Dismount Warning Sign
Share Use Path/Etiquette Signs
White background with Black border and text.

EDUCATIONAL SIGNS

24"x36 Panels (by others)
"You are here"/Trail Map



MOTOR CYCLES



Mini-Stencil (white on pavement)

Sample signage shown. Final colors, types, messages, etc. will be refined during final design phase.

INFORMATIONAL EXAMPLES – TRAIL ETIQUETTE

PAVEMENT MARKINGS

NOTES:

1. PAVEMENT ELEVATIONS ARE AT 50 FEET INTERVALS UNLESS OTHERWISE NOTED.
2. ELEVATIONS SHOWN ARE AT TC UNLESS OTHERWISE NOTED.
3. SAWCUT SHALL BE 1' FROM THE LIP OF GUTTER UNLESS OTHERWISE NOTED.
4. CONSTRUCT VERTICAL CURB AND GUTTER (TYPE A) PER CITY OF PALO ALTO STANDARD CONSTRUCTION DETAIL DRAWING DWG No. 133. **1 C-6**
5. CONSTRUCT PCC SIDEWALK PER CITY OF PALO ALTO STANDARD CONSTRUCTION DETAIL DRAWING DWG No. 141. **2 C-6**
6. CONSTRUCT PCC DRIVEWAY PER CITY OF PALO ALTO STANDARD CONSTRUCTION DETAIL DRAWING DWG No. 120. **1 C-7**
7. CONSTRUCT CATCH BASIN (TYPE A) PER CITY OF PALO ALTO STANDARD CONSTRUCTION DETAIL DRAWING DWG No. 301. **2 C-8**
8. CATCH BASIN (TYPE A) SHALL HAVE HOOD, FRAME, AND GRATE PER CITY OF PALO ALTO STANDARD DETAIL DRAWING DWG No. 303. **2 C-7**
9. CONSTRUCT CHAIN LINK GATE AND CHAIN LINK FENCE (TYPE CL-4) PER CALTRANS REVISED STANDARD PLAN RSP A85.
10. CONSTRUCT CATCH BASIN AWAY FROM CURB PER CITY OF PALO ALTO STANDARD CONSTRUCTION DETAIL DRAWING DWG No. 304. **1 C-8**

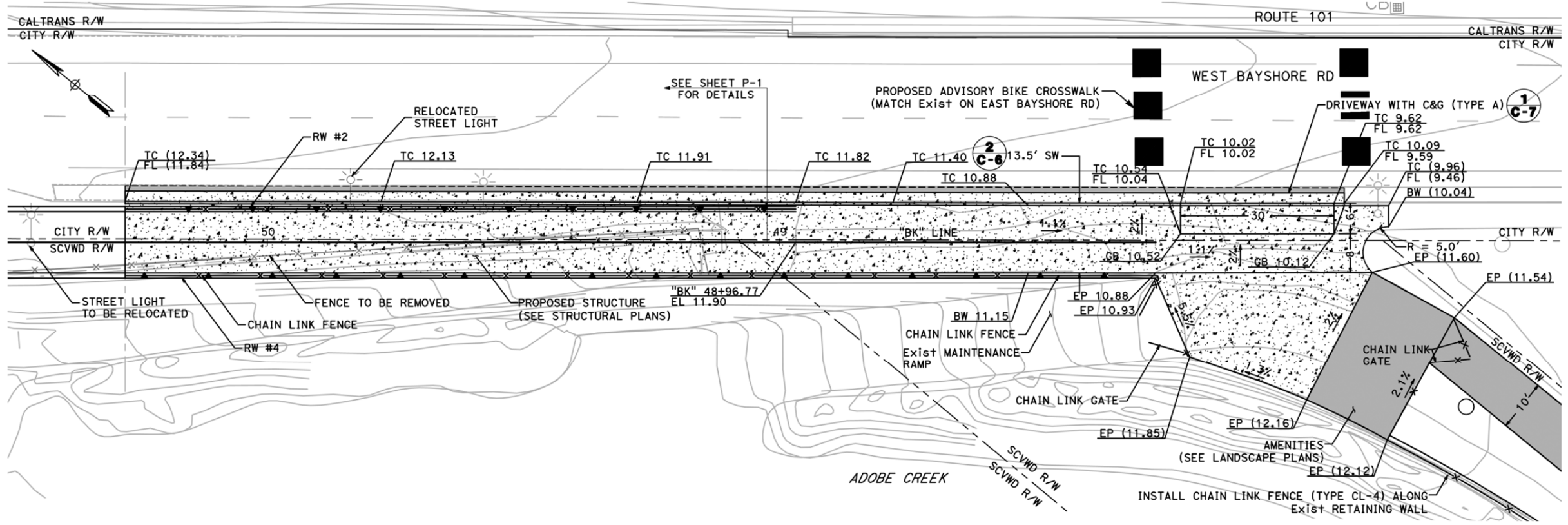
11. CONSTRUCT CURB (TYPE A1-6) PER CALTRANS STANDARD PLAN A87A.
12. EXISTING DRAINAGE LOCATIONS ARE APPROXIMATE ONLY. VERIFY LOCATION AND ELEVATION BEFORE MODIFYING EXISTING DRAINAGE FACILITIES.
13. CONTRACTOR TO VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIALS
14. CONSTRUCT DI (TYPE G2) PER CALTRANS REVISED STANDARD PLAN RSP D73B.
15. DI (TYPE G2) SHALL HAVE GRATE (TYPE 24-12X) COVER PER CALTRANS STANDARD PLAN D77B.
16. FOR TREE REMOVAL, SEE LANDSCAPING PLANS.
17. FOR STREET LIGHT RELOCATION, SEE ELECTRICAL PLANS.

LEGEND:

- (X.XX) EXISTING PAVEMENT ELEVATION
X.XX PROPOSED PAVEMENT ELEVATION
- PCC SIDEWALK AND DRIVEWAY
- 1.00' DEEP LIFT HMA (TYPE A)
- HMA (TYPE A)
- LANDSCAPE AREA
- SAWCUT
- CHAIN LINK FENCE
- HANDRAIL
- RETAINING WALL
- CUT AND FILL LINE
- 1 C-1** DETAIL NUMBER DESIGNATION
DETAIL 1 ON SHEET C-1

ABBREVIATIONS:

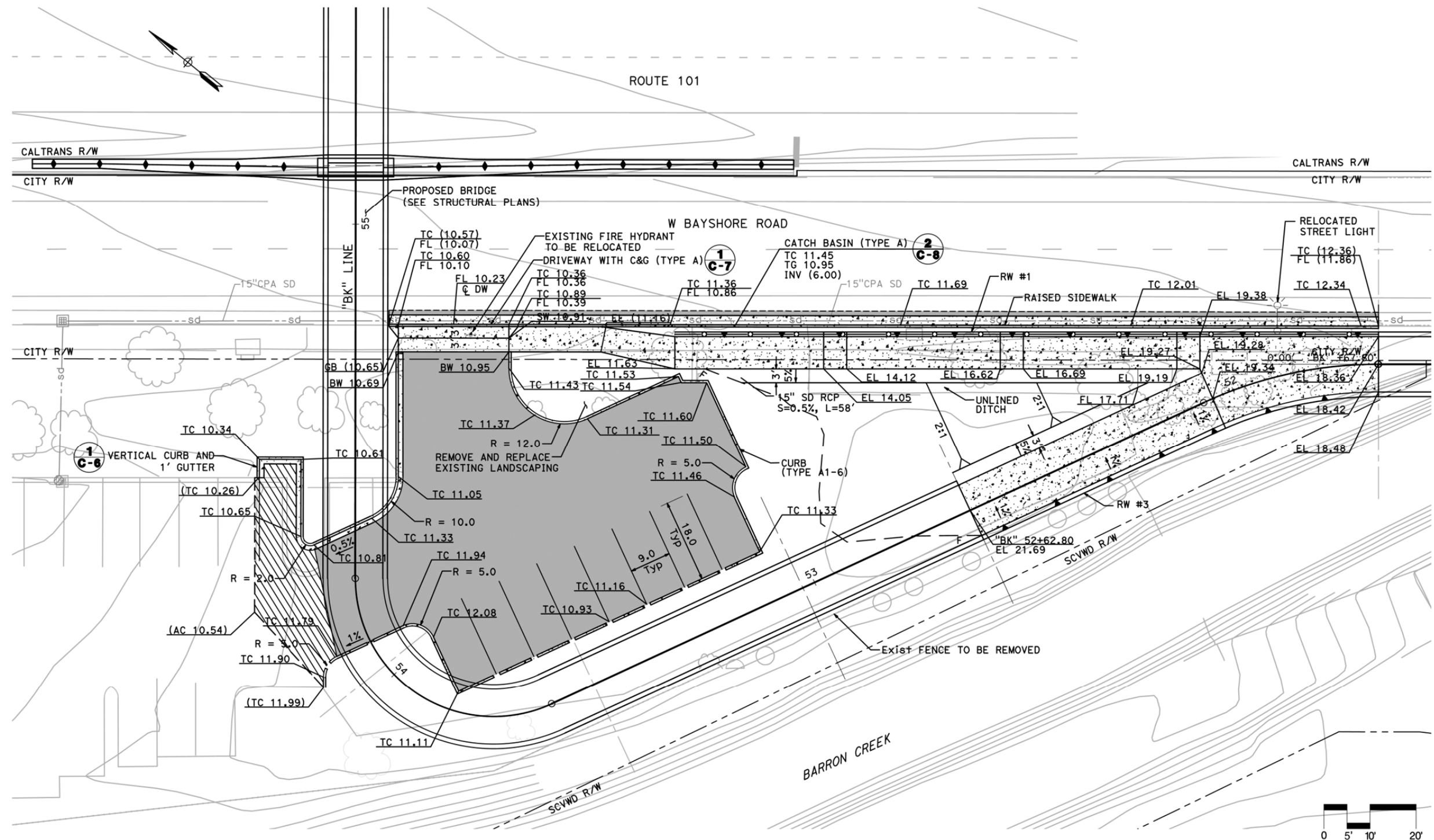
- | | |
|-------|-------------------------------|
| BW | BACK OF WALK |
| C&G | CURB & GUTTER |
| CR | CURB RAMP |
| EL | ELEVATION |
| ETWHP | EDGE OF TRAVEL WAY HIGH POINT |
| GB | GRADE BREAK |
| HT | HIGH POINT |
| Rem | REMOVE |



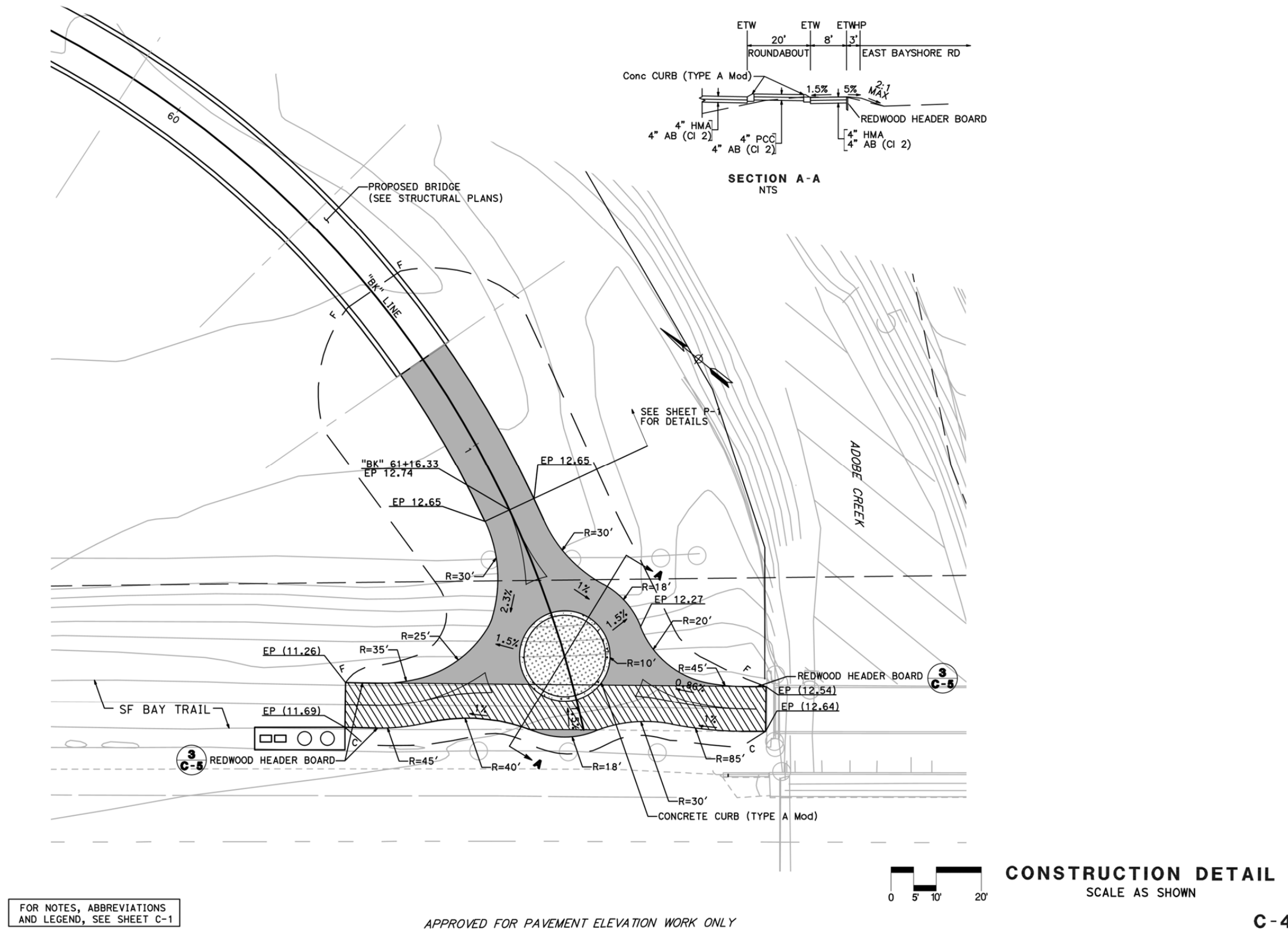
APPROVED FOR PAVEMENT ELEVATION WORK ONLY

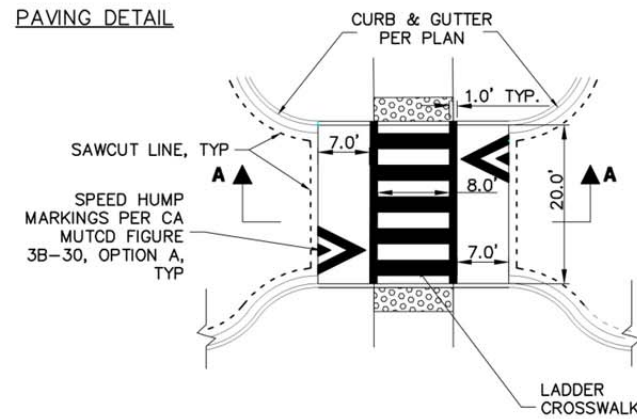
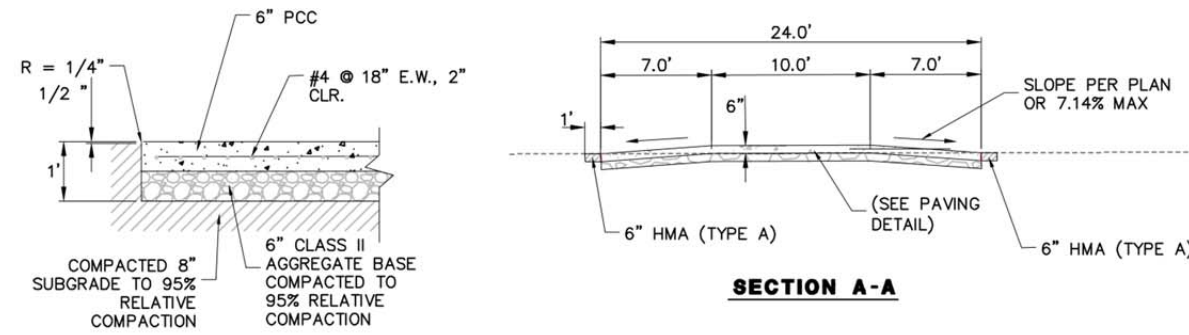


C-1

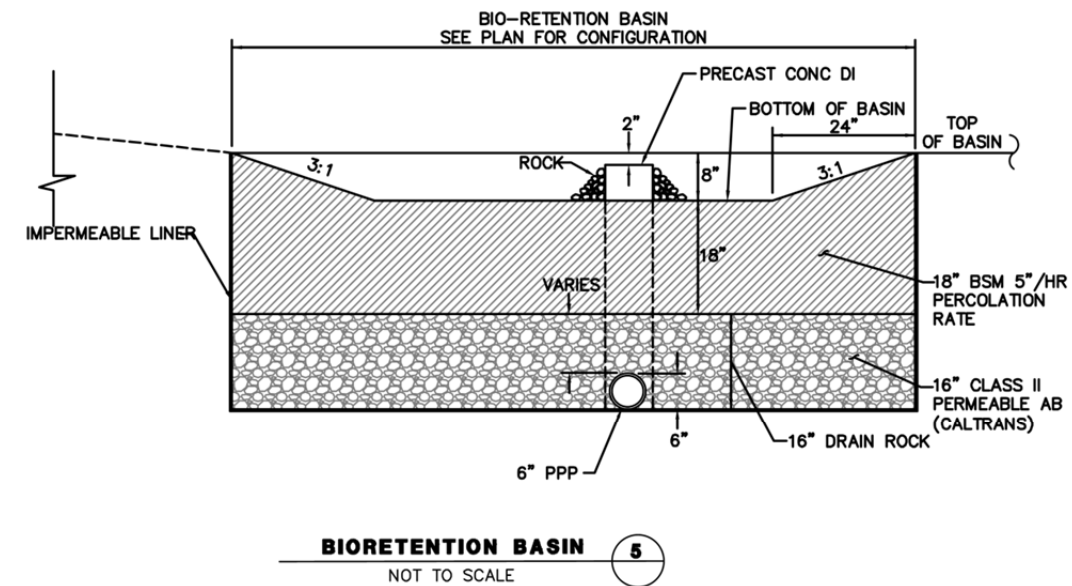
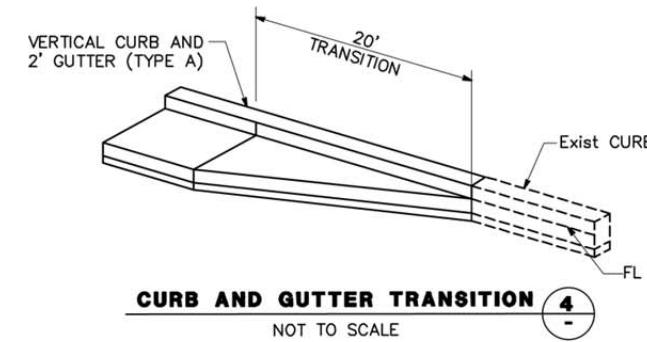
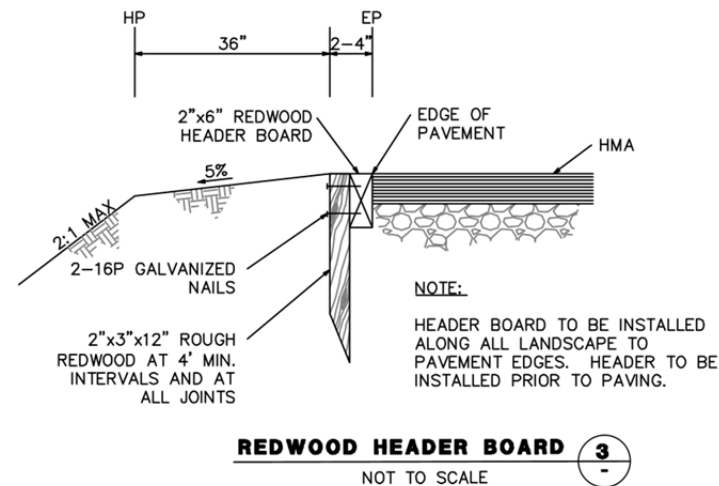
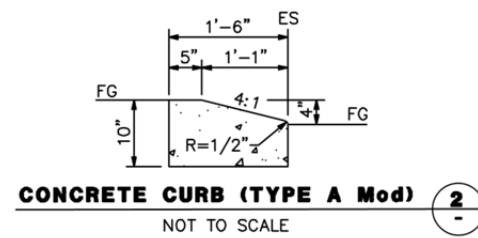


C-2



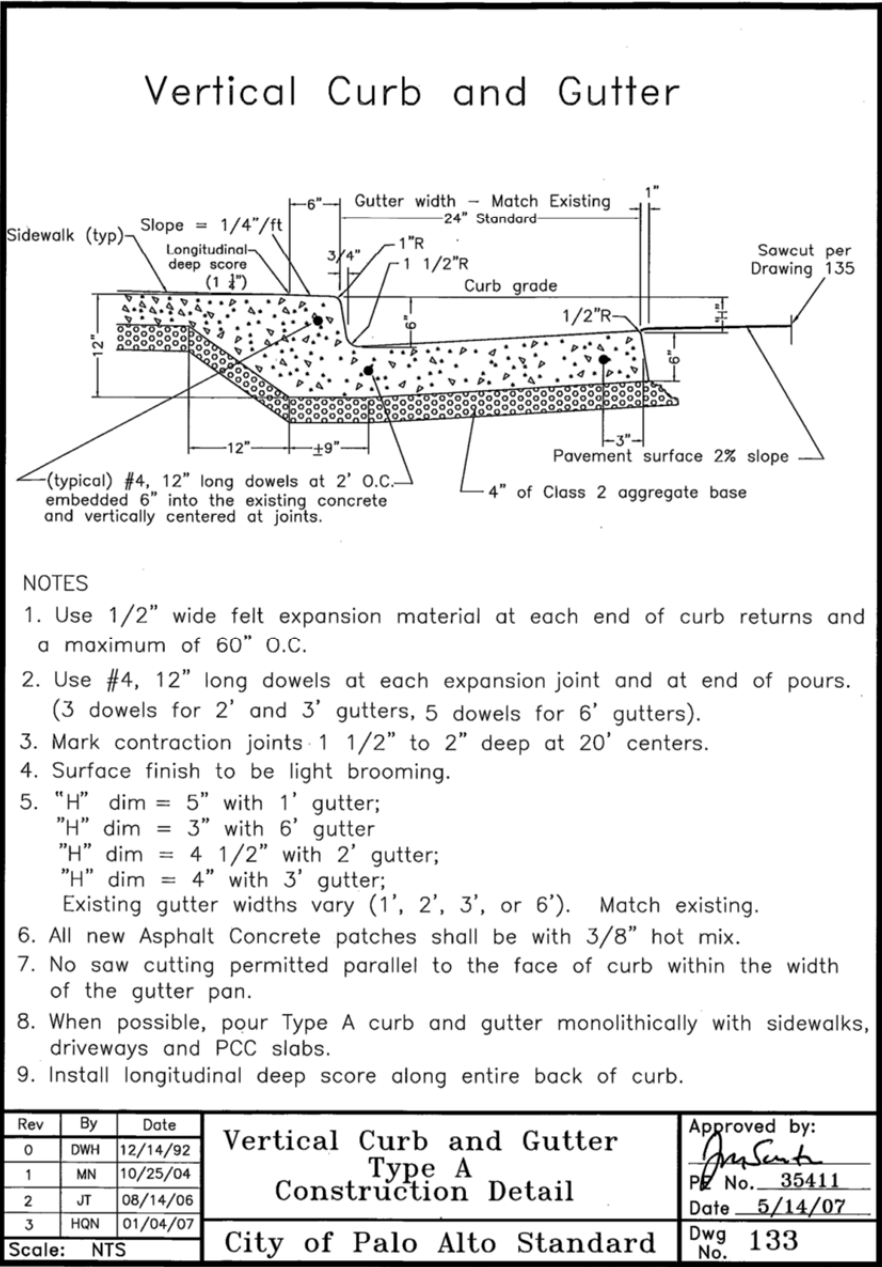


IMPROVEMENTS NEAR E MEADOW DRIVE 1
NOT TO SCALE



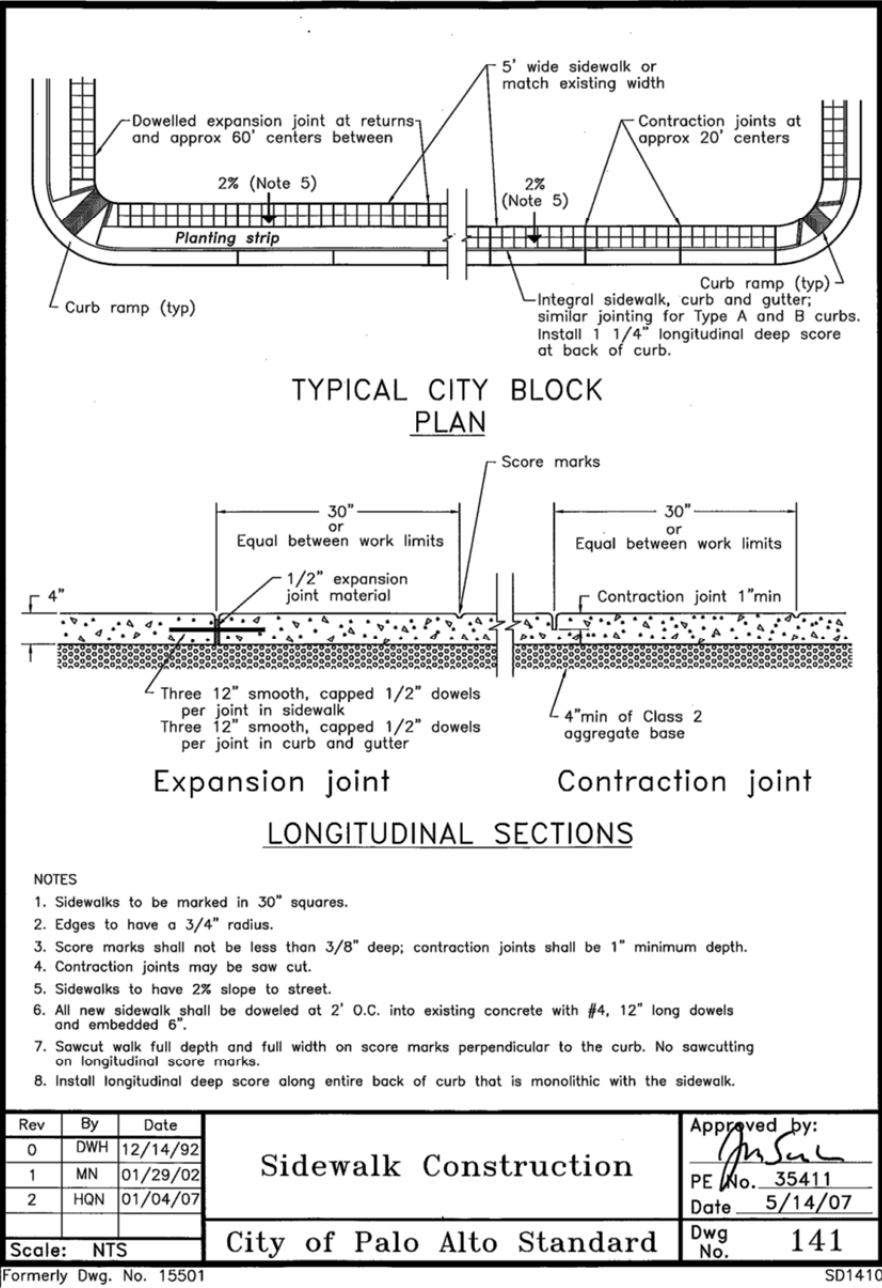
CONSTRUCTION DETAIL
SCALE AS SHOWN

FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET C-1



VERTICAL C&G (TYPE A)
NOT TO SCALE

1

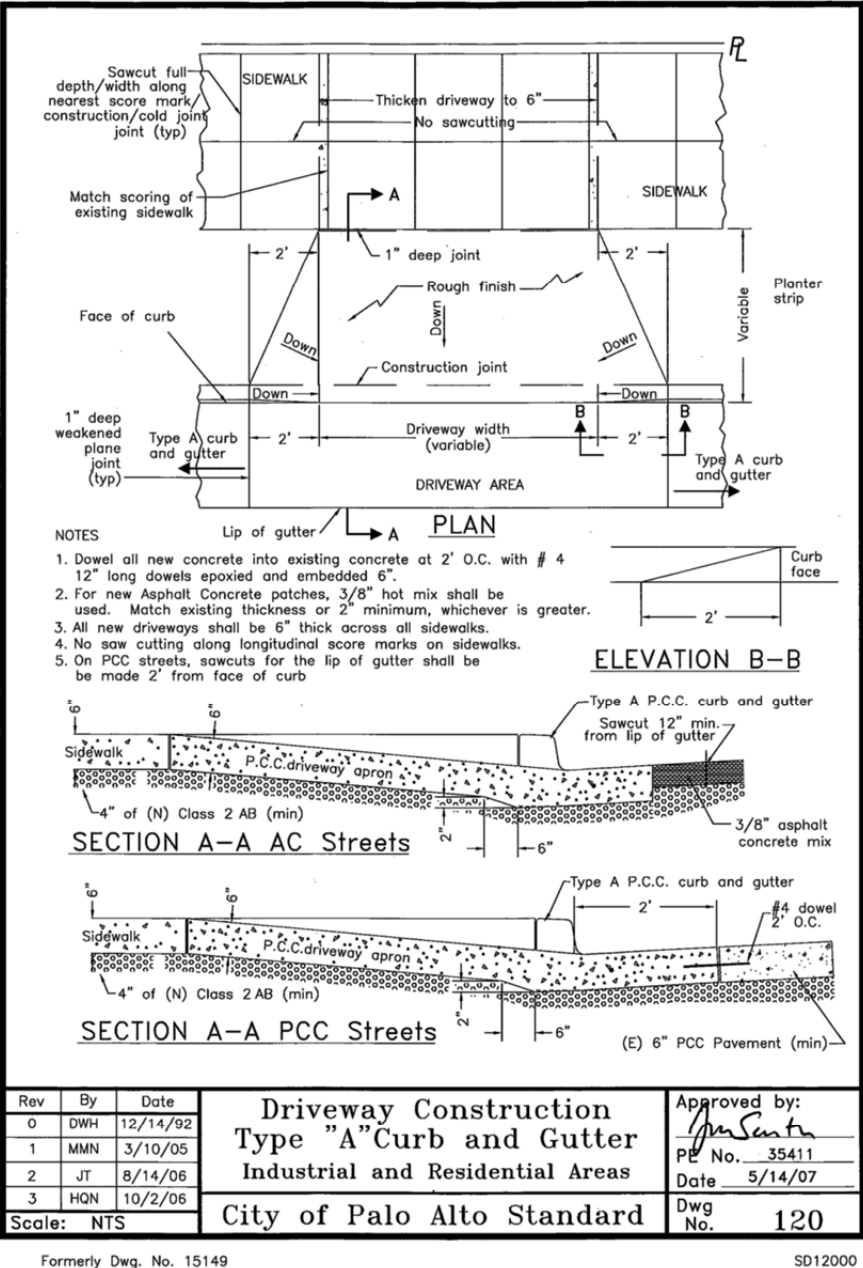


SIDEWALK DETAIL
NOT TO SCALE

2

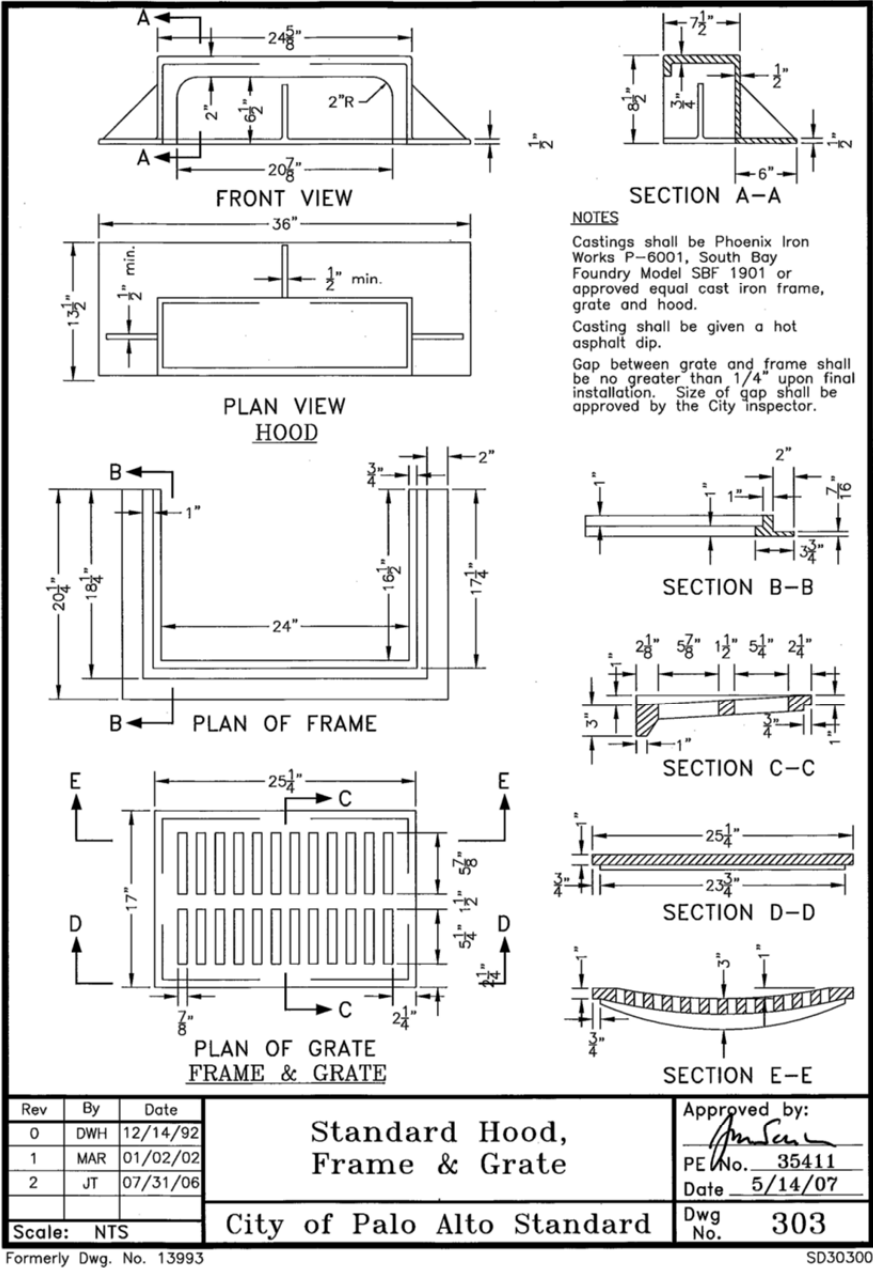
CONSTRUCTION DETAIL
NO SCALE

C-6



DRIVEWAY DETAIL
NOT TO SCALE

1

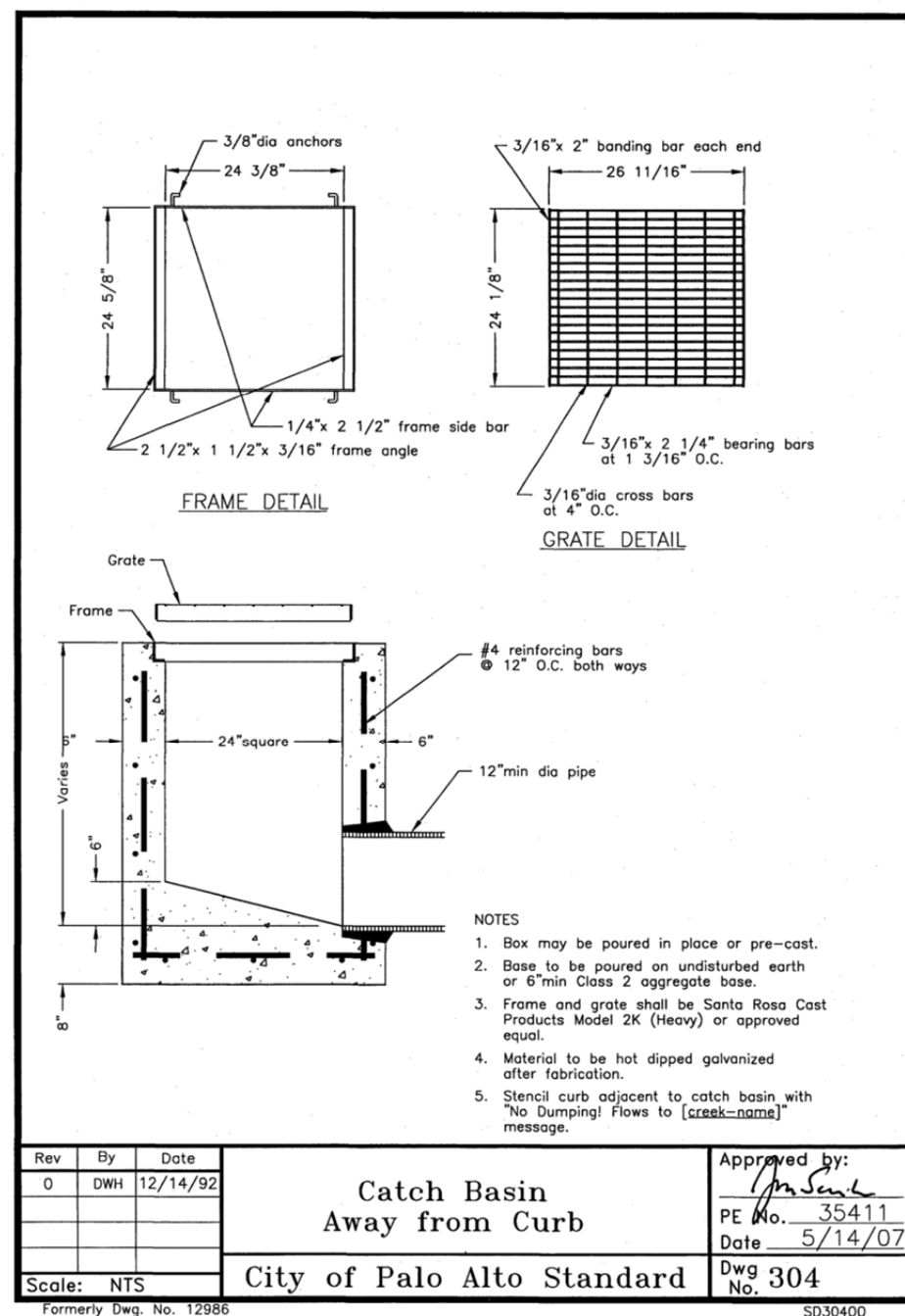


HOOD, FRAME, GRATE
NOT TO SCALE

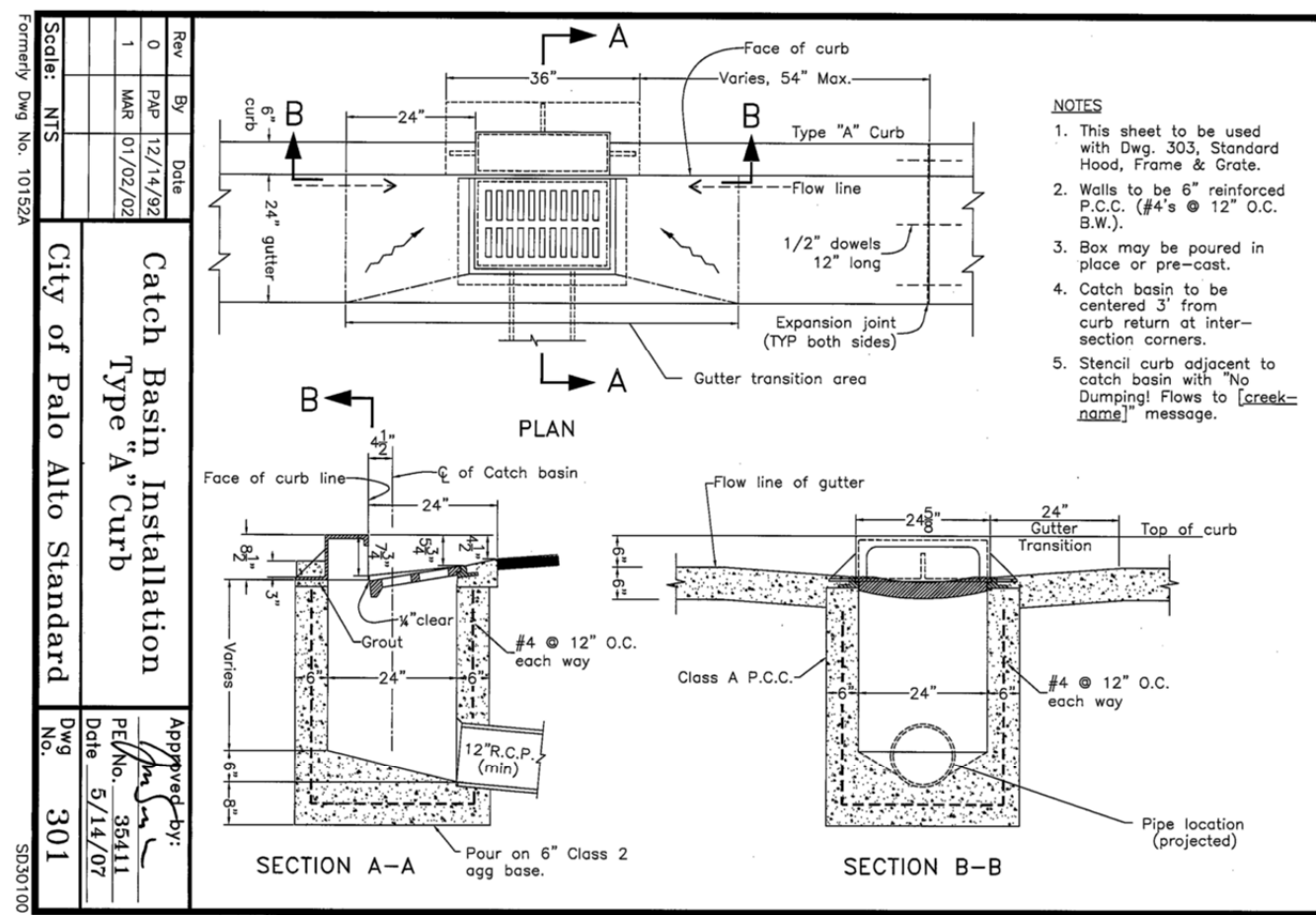
2

CONSTRUCTION DETAIL
NO SCALE

C-7



CATCH BASIN AWAY FROM CURB 1
NOT TO SCALE



CATCH BASIN (TYPE A) 2
NOT TO SCALE

CONSTRUCTION DETAIL
NO SCALE

C-8

See Attached


City of Palo Alto Tree Protection - It's Part of the Plan!

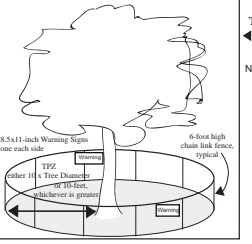
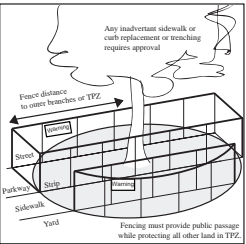
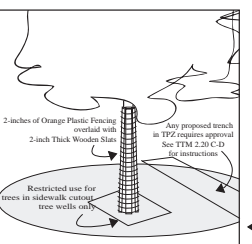
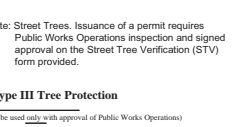
Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.**

For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual (TTM)** found at www.cityofpaloalto.org/trees/.

TREE DISCLOSURE STATEMENT		CITY OF PALO ALTO Planning Division, 250 Hamilton Avenue Palo Alto, CA 94301 (650) 329-2441 http://www.cityofpaloalto.org
Palo Alto Municipal Code, Chapter 8.10.040, requires disclosure and protection of certain trees located on private and public property, and that they be shown on approved site plans. A completed disclosure statement must accompany all building permit applications that include exterior work, all demolition or grading permit applications, or other development activity.		
PROPERTY ADDRESS: <u>0.3 MILES NORTH OF SAN ANTONIO ROAD</u>		
Are there Regulated trees on or adjacent to the property? <input checked="" type="radio"/> YES <input type="radio"/> NO (If no, proceed to Section 4)		
[Sections 1-4 MUST be completed by the applicant. Please circle and/or check where applicable.]		
1. Where are the trees? Check those that apply. (Plans must be submitted showing over 4" diameter trees) <input checked="" type="checkbox"/> On the property <input type="checkbox"/> On adjacent property overhanging the project site <input type="checkbox"/> In the City planter strip or right-of-way easement within 30' of property line (Street Trees)*		
*Street trees require special protection by a fenced enclosure, per the attached instructions. Prior to receiving any permit, you must provide an authorized Street Tree Protection Verification form by calling Public Works Operations at 493-5953 for inspection of required type I, II or III fencing (see attached Detail #605).		
2. Are there any Protected or Designated Trees? <input checked="" type="radio"/> YES (Check where applicable) <input type="radio"/> NO <input checked="" type="checkbox"/> Protected Tree (s) <input type="checkbox"/> Designated Tree (s) <input type="checkbox"/> On or overhanging the property		
3. Is there activity or grading within the dripline? (radius 10 times the trunk diameter) of these trees? <input type="radio"/> YES <input checked="" type="radio"/> NO If Yes, a Tree Preservation Report must be prepared by an ISA certified arborist and submitted for staff review (see TTM - Section 6.25). Attach this report to Sheet T-1, Tree Protection, its Part of the Plan, per Site Plan Requirements.		
4. Are the Site Plan Requirements* completed? <input type="radio"/> YES <input checked="" type="radio"/> NO **Protection of Regulated trees during development require the following: (1) Plans must show the measured trunk diameter and canopy dripline; (2) Plans must denote, as a bold dashed line, a fenced enclosure area out to the dripline, per Sheet T-1 and Detail #605 - http://www.cityofpaloalto.org/trees/forms.htm (See also TTM, Section 2.15 for area to be fenced)		
I, the undersigned, agree to the conditions of this disclosure. I understand that knowingly or negligently providing false or misleading information in response to this disclosure requirement constitutes a violation of the Palo Alto Municipal Code Section 8.10.040, which can lead to criminal and/or civil legal action.		
Signature: _____ Print: _____ Date: _____ (Prop. Owner or Agent)		
FOR STAFF USE: Protective Fencing Sections 5-6 must be completed by staff for the issuance of any development permit (demolition, grading or building permit).		
5. Protected Trees. The specified tree fencing is in place. A written statement is attached verifying that protective fencing is correctly in place around protected and/or designated trees. <input type="checkbox"/> YES <input type="checkbox"/> NO (N/A if there are no protected trees, check here <input type="checkbox"/>)		
6. Street Trees. A signed Public Works Street Tree Protection Verification form is attached. <input type="checkbox"/> YES <input type="checkbox"/> NO (N/A if there are no street trees, check here <input type="checkbox"/>)		
Regulated Trees - a) Street trees - trees on public property; b) Protected trees - Coast Live Oaks or Valley Oaks which are 11.5" in diameter or larger, Coast Redwoods which are 18" in diameter or larger, when measured 54" above natural grade; and Heritage trees are trees designated by City Council; and c) Designated Trees - commercial or non-residential property trees, which are part of an approved landscape plan. Palo Alto Tree Technical Manual (TTM) contains instructions for all requirements on this form, available at http://www.cityofpaloalto.org/planning/community-tree-technical-manual.html		
S:Plan/Pladv/Arborist/Tree Protection Info/Tree Disclosure Statement Revised 08/06		

City of Palo Alto 250 Hamilton Avenue, Palo Alto, CA 94301	
Search: _____	Advanced <input type="checkbox"/> Browse By Topic <input type="checkbox"/>
Home <input type="checkbox"/> Planning & Community Environment <input type="checkbox"/>	
	
Tree Technical Manual	
To purchase the Tree Technical Manual	
June, 2001 First Edition	
View by section:	
• Table of Contents (PDF, 87KB) • Intent and Purpose (PDF, 1.05MB) • Introduction - Use of Manual (PDF, 1.05MB) • Section 1.0 - Definitions (PDF, 96KB) • Section 2.0 - Protection of Trees During Construction (PDF, 259KB) • Section 3.0 - Removal, Replacement & Planting of Trees (PDF, 117KB) • Section 4.0 - Hazardous Trees (PDF, 104KB) • Section 5.0 - Tree Maintenance Guidelines (PDF, 110KB) • Section 6.0 - Tree Reports (PDF, 84KB)	
View ALL sections:	
• Tree Technical Manual - Full (PDF, 1.84MB)	
APPENDICES: A. Palo Alto Municipal Code Chapter 8.10, Tree Preservation & Management Regulations B. Tree City - USA C. ISA Hazard Evaluation Form D. List of Inherent Failure Patterns for Selected Species (Reference source) E. ISA Tree Pruning Guidelines (PDF, 1.89MB) F. Tree Care Safety Standards, ANSI Z123.1-1994 (Reference source) G. Pruning Performance Standards, ANSI A300-1995 (Reference source) H. Tree Planting Details, Diagram 504 & 505 I. Tree Disclosure Statement J. Palo Alto Standard Tree Protection Instructions	

For written specifications associated with illustrations below, see Public Works Specifications Section 31 Detailed specifications are found in the Palo Alto Tree Technical Manual (TTM) (www.cityofpaloalto.org/trees/)	
Tree Protection Zone (TPZ) shown in gray (radius of TPZ equals 10-times the diameter of the tree or 10-feet, whichever is greater). • Restricted activity area - see Tree Technical Manual Sec 2.15(E). • Restricted trenching area - see Tree Technical Manual Sec 2.20(C-D), any proposed trench or form work within TPZ of a protected tree requires approval from Public Works Operations. Call 650-496-5953.	
 Type I Tree Protection Note: Ordinance Protected & Designated Trees. Issuance of a permit requires applicant's project arborist written verification Type I is installed correctly according to the plans and Tree Preservation Report.	 Type II Tree Protection Note: Street Trees. Issuance of a permit requires Public Works Operations inspection and signed approval on the Street Tree Verification (STV) form provided.
 Type III Tree Protection (to be used only with approval of Public Works Operations)	 Type III Tree Protection (to be used only with approval of Public Works Operations)
Tree fencing is required and shall be erected before demolition, grading or construction begins.	
Rev	By Date
0	DWH 12/14/92
01	D.D. 08/04/04
02	D.D. 08/10/06
Scale: NTS	
Tree Protection During Construction	
City of Palo Alto Standard	
Approved by: Dave Dockter PE No. _____ Date: 2006 Dwg No. 605	

PALO ALTO STREET TREE PROTECTION INSTRUCTIONS -SECTION 31-	
31-1	General a. Tree protection has three primary functions: 1) to keep the foliage canopy and branching structure clear from contact by equipment, materials and activities; 2) to preserve roots and soil conditions in an intact and non-compacted state and 3) to identify the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. b. The Tree Protection Zone (TPZ) is a restricted area around the base of the tree with a radius of ten-times the diameter of the tree's trunk or ten feet, whichever is greater, enclosed by fencing.
31-2	Reference Documents a. Detail #65 - Illustration of situations described below. b. Tree Technical Manual (TTM) Forms (http://www.cityofpaloalto.org/trees/) 1. Trenching Restriction Zones (TTM, Section 2.20(C)) 2. Arborist Reporting Protocol (TTM, Section 6.30) 3. Site Plan Requirements (TTM, Section 6.25) 4. Tree Disclosure Statement (TTM, Appendix I) c. Street Tree Verification (STV) Form (http://www.cityofpaloalto.org/trees/forms)
31-3	Execution a. Type I Tree Protection: The fence shall enclose the entire TPZ of the tree(s) to be protected throughout the life of the construction project. In some parking areas, if fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved by Public Works Operations. b. Type II Tree Protection: For trees situated within a planter strip, only the planter strip and yard side of the TPZ shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use. c. Type III Tree Protection: To be used only with approval of Public Works Operations. Trees situated in a tree well or sidewalk planter pit, shall be wrapped with 2-inches of orange plastic fencing from the ground to the first branch and overlaid with 2-inch thick wooden slats bound securely (slats shall not be allowed to dig into the bark). During installation of the plastic fencing, caution shall be used to avoid damaging any branches. Major limbs may also require plastic fencing as directed by the City Arborist. d. Size, type and area to be fenced. All trees to be preserved shall be protected with six (6) foot high chain link fence. Fences are to be mounted on two-inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing. Fencing shall extend to the outer branching, unless specifically approved on the STV Form. e. Warning signs. A warning sign shall be weather proof and prominently displayed on each fence at 20-foot intervals. The sign shall be minimum 8.5-inches x 11-inches and clearly state in half inch tall letters: "WARNING - Tree Protection Zone - This fence shall not be removed and is subject to a fine according to PAMC Section 8.10.110." f. Duration. Tree fencing shall be erected before demolition, grading or construction begins and remain in place until final inspection of the project, except for work specifically allowed in the TPZ. Work or soil disturbance in the TPZ requires approval by the project arborist or City Arborist (in the case of work around Street Trees). Excavations within the public right of way require a Street Work Permit from Public Works. g. During construction 1. All neighbors' trees that overhang the project site shall be protected from impact of any kind. 2. The applicant shall be responsible for the repair or replacement plus penalty of any publicly owned trees that are damaged during the course of construction, pursuant to Section 8.04.070 of the Palo Alto Municipal Code. 3. The following tree preservation measures apply to all trees to be retained: a. No storage of material, topsoil, vehicles or equipment shall be permitted within the TPZ. b. The ground under and around the tree canopy area shall not be altered. c. Trees to be retained shall be irrigated, watered and maintained as necessary to ensure survival.
END OF SECTION City of Palo Alto 2004 Standard Drawings and Specifications Street Tree Verification of Protection, PWE, Section 31 Revised 08/06	

Palo Alto Tree Technical Manual CONTRACTOR & ARBORIST INSPECTION SCHEDULE	
Reference the Palo Alto Tree Technical Manual is available at www.cityofpaloalto.org/environment/	
ALL CHECKED ITEMS APPLY TO THIS PROJECT:	
1. <input checked="" type="checkbox"/> Inspection of Protective Tree Fencing. For Public Trees, the Street Tree Verification Form shall be signed by the City Arborist. For Protected Trees, the project site arborist shall provide an initial Monthly Tree Activity Report form with a photograph verifying that he has conducted a field inspection of the trees and that the correct type of protective fencing is in place around the designated tree protection zone (TPZ) prior to issuance of a demolition, grading, or building permit. (See TTM, Verification of Tree Protection, Section 1.39).	
2. <input checked="" type="checkbox"/> Pre-Construction Meeting. Prior to commencement of construction, the applicant or contractor shall conduct a pre-construction meeting to discuss tree protection with the job site superintendent, grading operators, project site arborist, City Arborist, and, if a city maintained irrigation system is involved, the Parks Manager (Contact 650-496-6962).	
3. <input checked="" type="checkbox"/> Inspection of Rough Grading or Trenching. Contractor shall ensure the project site arborist performs an inspection during the course of rough grading or trenching adjacent to or within the TPZ to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The contractor shall provide the project arborist at least 24 hours advance notice of such activity.	
4. <input checked="" type="checkbox"/> Monthly Tree Activity Report Inspections. The project site arborist shall perform a minimum monthly activity inspection to monitor and advise on conditions, tree health and retention or final occupancy the applicant or contractor shall arrange for the Landscape Architect to perform an on site inspection of all plant stock, quality of the materials and planting (see TTM, Planting Quality, Section 5.20.1 A) and that the irrigation is functioning consistent with the approved construction plans. The Planning Dept. landscape review staff shall be in receipt of written verification of Landscape Architect approval prior to scheduling the final inspection, unless otherwise approved.	
5. <input checked="" type="checkbox"/> Special activity within the Tree Protection Zone. Work in the TPZ area (see also #7 below) requires the direct onsite supervision of the project arborist (see TTM, Trenching, Excavation & Equipment, Section 2.20 C).	
6. <input type="checkbox"/> Landscape Architect Inspection. For discretionary development projects, prior to temporary or final occupancy the applicant or contractor shall arrange for the Landscape Architect to perform an on site inspection of all plant stock, quality of the materials and planting (see TTM, Planting Quality, Section 5.20.1 A) and that the irrigation is functioning consistent with the approved construction plans. The Planning Dept. landscape review staff shall be in receipt of written verification of Landscape Architect approval prior to scheduling the final inspection, unless otherwise approved.	
7. <input type="checkbox"/> List Other (please describe as called out in the site Tree Preservation Report, Sheet T-1, T-2, etc.)	
* _____ * _____ * _____	

City of Palo Alto Tree Department Public Works Operations PO Box 10250 Palo Alto, CA 94303 650-496-5953 FAX: 650-852-9289 inspections@cityofpaloalto.org		Verification of Street Tree Protection	
Applicant Instructions: Complete upper portion of this form. Mail or FAX this form along with signed Tree Disclosure Statement to Public Works Dept. Public Works Tree Staff will inspect and notify applicant.			
APPLICATION DATE:			
ADDRESS/LOCATION OF STREET TREES TO BE PROTECTED:			
APPLICANT'S NAME:			
APPLICANT'S ADDRESS:			
APPLICANT'S TELEPHONE & FAX NUMBERS:			
This section to be filled out by City Tree Staff			
1. The Street Trees at the above address(es) are adequately protected. The type of protection used is:	YES <input type="checkbox"/> NO <input type="checkbox"/>	* If NO, go to #2 below	
Inspected by:			
Date of Inspection:			
2. The Street Trees at the above address are NOT adequately protected. The following modifications are required:			
Indicate how the required modifications were communicated to the applicant.			
Subsequent Inspection			
Street trees at above address were found to be adequately protected:	YES <input type="checkbox"/> NO <input type="checkbox"/>	* If NO, indicate in "Notes" below the disposition of case.	
Inspected by:			
Date of Inspection:			
Notes: List City street trees by species, site, condition and type of tree protection installed. Also note if pictures were taken. Use back of sheet if necessary.			
Return approved sheet to Applicant for demolition or building permit issuance.			
S:\PWC\STree\OS\TreeProtect 51706			

City of Palo Alto Tree Technical Manual Arborist Firm Data Here		ADDENDUM 11 RCA/ISA Certified Arborist #WJF-000 Contract Cell # _____	
Monthly Tree Activity Report- Construction Site			
Inspection Date:	Site address: Palo Alto, CA	Contractor- Main Site Contact Information	#1. Job site superintendent Company: _____ Email: _____ Job site Office: _____ Cell: _____ Mail: _____
Inspection #		Also present:	• _____ • _____
Distribution:	1. City of Palo Alto 2. Others	Attn: Dave Dockter	dave.dockter@cityofpaloalto.org 650-329-2440
Provide the requested minimum information with each report, customize as necessary. To be completed by project site arborist. Send monthly to city arborist at above address until project completion. Use additional sheets as needed.			
1. Assignment Activity (Demolition/grading/sewer/trenching/foundation/list relevant visits) a. Pre-construction meeting requirement with sub-contractors b. Inspect to verify that tree protection measures are in place c. Determine if field adjustments, watering or plan revisions may be needed			
2. Field Observations (general site-wide and list by individual tree number) a. Tree Protection Fences (TPF) are ... b. Trenching has/will occur ...			
3. Action Items (list site-wide, by tree number and date to be satisfied) and Date Due a. Tree Protection Fence (TPF) needs adjusting (tree # x, x, x) b. Root zone buffer material (wood chips) can be installed next c. Schedule sewer trench, foundation dig with ...			
4. Photographs (use often)			
5. Tree Location Map (mandatory 8.5 x 11 sheet)			
6. Recommendations, notes or monitor items for project/staff/schedule			
7. Past visits (list carry-over items satisfied/still outstanding)			
• _____ • _____			
Respectfully submitted,			
Project site arborist Consultant contact information (Include email, cell#, and mailing) Cc: _____			
Enter Date		CPA Monthly Tree Activity Report: Type site address here Page #1 of 1	

---WARNING---	
Tree Protection Zone	
This fencing shall not be removed without City Arborist approval (650-496-5953)	
Removal without permission is subject to a \$500 fine per day*	
*Palo Alto Municipal Code Section 8.10.110	
City of Palo Alto Tree Protection Instructions are located at http://www.city.palo-alto.ca.us/trees/technical-manual.html	

SPECIAL INSPECTIONS	PLANNING DEPARTMENT
TREE PROTECTION INSPECTIONS MANDATORY	
PAMC 8.10 PROTECTED TREES. CONTRACTOR SHALL ENSURE PROJECT SITE ARBORIST IS PERFORMING REQUIRED TREE INSPECTION AND SITE MONITORING. PROVIDE WRITTEN MONTHLY TREE ACTIVITY REPORTS TO THE PLANNING DEPARTMENT LANDSCAPE REVIEW STAFF BEGINNING 14 DAYS AFTER BUILDING PERMIT ISSUANCE.	
BUILDING PERMIT DATE: _____	
DATE OF 1 ST TREE ACTIVITY REPORT: _____	
CITY STAFF: _____	
REPORTING DETAILS OF THE MONTHLY TREE ACTIVITY REPORT SHALL CONFORM TO SHEET T-1 FORMAT, VERIFY THAT ALL TREE PROTECTION MEASURES ARE IMPLEMENTED AND WILL INCLUDE ALL CONTRACTOR ACTIVITY, SCHEDULED OR UNSCHEDULED, WITHIN A TREE PROTECTION ROOT ZONE. NON-COMPLIANCE IS SUBJECT TO VIOLATION OF PAMC 8.10.080. REFERENCE: PALO ALTO TREE TECHNICAL MANUAL, SECTION 2.00 AND ADDENDUM 11.	

Apply Tree Protection Report on sheet(s) T-2

Use additional "T" sheets as needed

Project
Data

T-1



All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
<http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460>

Special Tree Protection Instruction Sheet
City of Palo Alto



T-1

City of Palo Alto

Tree Protection - It's Part of the Plan!

Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An appoved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.**
For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.

Apply Tree Protection Report on sheet(s) T-2
Use additional "T" sheets as needed

Project Data

